

# TIME



## World War ISIS

*by David Von Drehle*

**ISIS will strike America** *by Michael Morell*

**How to beat them** *by Admiral James Stavridis*

**Welcome refugees** *by Madeleine Albright*

**Fortify the borders** *by Marine Le Pen*

**The lineage of terror** *by Kamel Daoud*

**The clueless 2016 candidates** *by Joe Klein*

**France's culture wars** *by Jay Newton-Smith*

**Paris, je t'aime** *by Matt Vella*

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**DR. ANTHONY FAUCI**, director of the National Institute of Allergy and Infectious Diseases



A mourner at the Place de la République in Paris on Nov. 14

## Cover Story

# The Fight Against ISIS

In a single grisly fortnight, Islamic State militants apparently downed a Russian passenger jet and staged deadly attacks in Beirut and Paris. Now the world looks to President Obama for a brand of leadership he has been reluctant to offer

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Illustration by Edel Rodriguez for TIME



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*The pages of this book about clean water double as water filters*

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*Jordan as Adonis Creed, page 126*





MARRY ME  
SOUNDS SO MUCH  
BETTER THAN JUST  
MERRY  
CHRISTMAS.



A DIAMOND IS FOREVER

HAPPY HOLIDAYS FROM FOREVERMARK

# The story from Paris—and beyond

WHEN PARIS ERUPTED IN TERROR AND TRAGEDY ON the night of Friday, Nov. 13, TIME was fortunate to have several seasoned correspondents and photographers close by; along with reporters and editors in Berlin, Cairo, Hong Kong, London, New York, Washington and Iowa, they produced 62 dispatches for TIME.com in the first 24 hours. Paris reporter Vivienne Walt tracked the investigation through her French police and government sources; Jay Newton-Small arrived from Washington on Saturday and went immediately to Hôtel-Dieu hospital, finding a family searching, in vain as it would turn out, for a missing daughter. Naina Bajekal was on vacation in Paris when she began reporting from a barricaded restaurant. Middle East bureau chief Jared Malsin flew to Beirut to interview witnesses in the horrific bombing of a market area earlier in the week. Ideas editor Claire Howorth reached out for comment from all the U.S. presidential candidates and dozens of regional and military experts. Those commentaries are collected at [time.com/paris](http://time.com/paris). Our coverage of the Paris attacks continues at TIME.com.

THIS ISSUE IS THE LAST WE WILL PUBLISH FROM OUR current headquarters; TIME and its sister publications are moving to a new home in lower Manhattan. We look forward to new neighbors, new facilities and new views. As we purge our files and pack our books, we're unearthing all sorts of treasures. About 7 million documents will find a new home with the New-York Historical Society, along with our Oscar from 1937 and a signed first edition of Adam Smith's *The Wealth of Nations* from 1776, inscribed to the statesman Edmund Burke.

Some of the unearthing will be literal. We are planning to retrieve the copper time capsule placed in the Time & Life Building's 800-lb. cornerstone, which includes the March 16, 1959, issue of TIME (featuring theologian Paul Tillich on the cover), program logs from the radio and TV stations that TIME owned, the company's first annual report, and an item labeled "Red pencil preferred by original TIME editors, still in use."

Nancy Gibbs, EDITOR



## Back in TIME

### PARIS, SEPT. 4, 1944

*This World War II-era cover story highlights the city's strength at a time of great peril. Read it at [time.com/vault](http://time.com/vault).*

**THE COVER LINE** PARIS: HOW LONG TILL HER HEART IS WARM AND GAY?

**THE BACKGROUND** In the summer of 1940, France fell to the Nazi forces that would occupy its capital for years. "Paris that had meant so many things to so many people, the city that stood as Western civilization's tallest monument to art, science, letters, liberty and love, faced abandonment or destruction," TIME wrote in the June 24 issue of that year.

**THE NEWS** Correspondent Charles Christian Wertenbaker—believed by the magazine to be the first American reporter to reach Paris as Allied forces liberated "the city of all free mankind"—shares his eyewitness report on the scene in the city.

**THE CONCLUSION** Despite it all, Paris remained the city with which the world had once fallen in love. Even as some areas still burned, Wertenbaker noted that its inhabitants were proud of their strength and freedom. When the last Nazi is gone, no matter the damage, he wrote, "Paris will still be Europe's most beautiful city."

—LILY ROTHMAN

# YOU'RE GOING TO NEED A BIGGER BUCKET LIST.



The bold design and panoramic sunroof of the all-new Tucson are designed with one feat in mind: to bust you out of your comfort zone and into the realm of new experiences. With spacious seating and cargo area, this SUV has plenty of room to handle even the biggest bucket lists.

 **HYUNDAI** Tucson

Optional features shown. Panoramic sunroof is optional on the Limited trim. Hyundai is a registered trademark of Hyundai Motor Company. All rights reserved. ©2015 Hyundai Motor America.







## What you said about ...

**REFLECTIONS ON CHARLESTON** “This magnificent long read ... can’t be ignored,” wrote blogger Natasha Joseph of TIME’s Nov. 23 cover story about the aftermath of the June massacre at a historic church in the South Carolina city. “Powerful. Potent. Poignant. Perfect.” The 27-page piece, by David Von Drehle with Jay Newton-Smith and Maya Rhodan, drew similar commentary on Twitter, where Annegrethe Rasmussen advised, “If you only read one (long) story today: What it takes to forgive a killer.”

Many were grateful for the story’s intimate focus on the survivors and their loved ones. “You finally get it. Honor the victims and their families, not the shooter,” wrote Elizabeth Shauver of New Castle, Ind. Maggie Fisher of West Bloomfield, Mich., agreed: “Especially touching were details about Rev. Thompson and his lovely wife, Myra. I felt I could have known the victims as neighbors.” And Steven Moffic, a psychiatrist in Milwaukee, said the story was an important and rare “comprehensive follow-up” to tragedy, adding that forgiveness, when possible, may help in preventing posttraumatic stress disorder.

“If you can make it past the first few paragraphs without being moved, you did better than we did.”

KIRSTEN BROWNING,  
on muckrack.com

‘We felt the pain, understood deeply held religious values. Pulitzer Prize [worthy] writing.’

TED CAMPBELL,  
Riverside, Calif.

Some, however, were left with questions. The Rev. Robert Close Jr. of Purcellville, Va., noted that there is still work to be done identifying the people and institutions that taught the killer to turn to such violence. “I wept and prayed reading [the story],” he wrote.



**MONEY’S TOP COLLEGES** As this week’s TIME story on student loans makes clear, value is a key factor in choosing the right college. That’s where *Money*’s College Planner comes in, ranking more than 700 schools to help you pick. Find it at [best-colleges.time.com](http://best-colleges.time.com).

<b>BEST SCHOOL FOR YOUR MONEY</b>	Stanford University <i>Stanford, Calif.</i>	It earned high marks for its graduation rate, affordability, alumni earnings and education quality
<b>BEST PUBLIC COLLEGE</b>	Maine Maritime Academy <i>Castine, Maine</i>	Early-career earnings average \$67,600
<b>COLLEGE THAT ADDS THE MOST VALUE</b>	Robert Morris University <i>Illinois Chicago</i>	A student tends to do far better than expected based on academic and economic backgrounds
<b>BEST COLLEGE YOU CAN ACTUALLY GET INTO</b>	Texas A&M University <i>College Station, Texas</i>	A high acceptance rate comes with a quality education and a 79% graduation rate
<b>BEST COLLEGE FOR MERIT AID</b>	St. John’s University <i>Collegeville, Minn.</i>	Aid for strong students—given without regard for a family’s finances—is a key part of this school’s appeal

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# 'WE WILL LEAD THE FIGHT. WE WILL BE MERCILESS.'

FRENCH PRESIDENT FRANÇOIS HOLLANDE, vowing retaliation against the militant group ISIS after the deadly terrorist attacks in Paris that killed at least 129 people and injured about 350 others



**Steven Spielberg**  
The filmmaker will receive the Presidential Medal of Freedom



**Steve Harvey**  
The comedian is being sued in a dispute over the cost of a private jet



'I'M GOING TO TAKE A LITTLE BIT OF TIME, BUT I'LL BE BACK.'

RONDA ROUSEY, mixed-martial-arts fighter, after her first MMA career loss, a knockout by Holly Holm



24

Speed, in miles per hour (39 km/h), that a **Google self-driving car** was going when it was pulled over by California police for driving too slow



'Maybe they're dumb and they don't know what they're going to get, but I don't think so.'

BERNIE SANDERS, Democratic presidential candidate, arguing at the second debate that rival Hillary Clinton's strong support from Wall Street makes her beholden to the financial industry



**\$1,200**

Cash in a wallet returned intact to a man two months after he lost it; it was found in a restaurant in Albuquerque, N.M.

'It's a hard three letters to absorb.'

CHARLIE SHEEN, actor, revealing that he is HIV-positive four years after he was diagnosed



36

Number of entries for **Zimbabwe's Mister Ugly** pageant, a record



'The 300th homicide is no more tragic than the first.'

STEPHANIE RAWLINGS-BLAKE, Baltimore mayor, after her city exceeded 300 murders for 2015, the most since 1999



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[#RethinkHighSchool](https://twitter.com/RethinkHighSchool)



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WORLD NUMBER ONE  
**TRIPLE CROWN**  
GREATEST SHOOTER

**Sports Illustrated**

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**SPORTSMAN**  
— of the —  
YEAR

WHO WILL IT BE?

GRAND SLAM  
FASTEST MAN ALIVE  
**TRIPLE CROWN**  
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CELEBRATING EXCELLENCE WITH



# The Brief

'JIHADI JOHN MUST HAVE KNOWN THIS WAS HOW HIS SYRIAN ADVENTURE WOULD END.' —PAGE 19



*Mourners in Paris keep a moment's silence near the city's most iconic monument*

## EUROPE

### Why the world cries more for the City of Light

By Matt Vella

ANOTHER AUTUMN HAS BECOME a season of mass grief.

The world watched—in real time this time—as a series of terrorist attacks tore through the French capital on the evening of Nov. 13. The shootings, suicide bombings and hostage taking targeted Parisian cafés, restaurants, boulevards, concert halls and the Stade de France, where a friendly soccer match with Germany was being held. The horror, claimed by the Islamic State of Iraq and Syria as its own, killed 129 people and injured some 350 more. In January, with an assault on the Paris offices of the satirical newspaper *Charlie Hebdo*, radicals attacked free thought, free expression, tolerance. In November they came again to strike at levity, joy, sport, music, youth.

The machinery of state ground into gear. French President François Hollande called for a war to annihilate ISIS and launched air strikes in Syria with American and international support. Domestic police and European counterterrorism units pulled a drag-net across the Continent to find other plots and root out accomplices, resulting in two more deaths when a woman blew herself up during a standoff in the Paris suburb of Saint-Denis on Nov. 18. “France is at war,” Hollande told a joint session of Parliament at the Palace of Versailles.

But it was the outpouring from individuals that was most remarkable. Their reaction was immediate, and because words are hard, images came fastest. Facebook portraits were masked with the tricolor flag.



Instagram was flooded with posts of honeymoons and semesters abroad captured in front of the Arc de Triomphe, the Palais du Louvre, the Sacré-Cœur. Images of Le Petit Prince and Madeline filled social media, as did pictures of monuments around the world painted in lights blue, white and red. French artist Jean Jullien's *Peace for Paris* illustration rendering the Eiffel Tower as a peace sign went viral.

**SOME CORRECTLY NOTED** the attacks in Beirut the day before had not received the same attention, not to mention earlier tragedies in London, Kenya, Madrid and too many other places. It is true that this massacre, the deadliest in France since World War II, was greeted differently, that the world seemed more shaken, more people moved. But why?

For one thing, the Internet has codified its rituals of grief over the past decade. Its norms are now as well defined as the protocols for sitting shivah or effectuating a Tibetan burial. There is the profile-photo overlay. There is the somewhat immaculate conception of the hashtag—#PrayForParis in this case, which was used 6.7 million times in a matter of hours. There are the real-world ceremonies that seem designed to be photographed and shared online like New York's *Tribute in Light*, the powerful searchlights that annually memorialize the downed Twin Towers. (This installation, like the Eiffel Tower, was supposed to be temporary but is now too iconic to dismantle.) Social media have allowed people to participate and sympathize in ways, however small, with those who may be thousands of miles away.

But also, this is Paris, the world's most visited city and likely its most idealized. The city, synonymous with love and light and food, is a dream for hundreds of millions of people. For Americans, the bond is especially strong. The blip of "freedom fries" notwithstanding, Americans love Paris and Parisians love America. If you had visited Le Bon Marché, the grand department store owned by LVMH in the seventh arrondissement, this fall, you would have found the most studiously curated exposition on Brooklyn, complete with American-made artisanal pickles and tattoo artists flown in from Williamsburg. (Brooklyn is America's most successful export to France since Jerry Lewis.) For many Americans—like Franklin, Jefferson, Wharton and Hemingway before them—Paris is the first experience of something foreign, something European. It makes great, if ironic, sense that Euro Disney is situated on the drizzly outskirts of Paris rather than the sunny shores of Barcelona as once proposed.

Paris is, above all, a city of leisure. In France

## TRAGEDY, TRENDING

As news of the attacks in Paris filtered through to the world, people took to the Internet to register their grief.



### HASHTAGS

#PrayForParis became a worldwide trend, while Parisians tweeted #JeSuisEnTerrasse (I am on the terrace) to show they were unafraid to leave their homes.



### PEACE FOR PARIS

A painting of the Eiffel Tower in the peace sign by French illustrator Jean Jullien was widely shared after being featured on Instagram.



### THE WORLD LIT UP

Images of buildings and monuments such as the Sydney Opera House splashed in blue, white and red were ubiquitous across social media.



### FILTERED FACES

Facebook temporarily allowed users to add a French tricolor filter over their profile pictures so people could wordlessly show their support.

nothing is easy—just try getting a taxi or waiting in line at the post office. But in Paris, everything is enjoyable. When Americans say one of our cities is "European," we really mean it is like Paris: open, insouciant, filled with art. It is the city that turned aimless wandering into philosophy; the city that transforms its murky riverfront into a sandy beach in the summer just because it's hot; the city that constantly asks itself, "What is beauty?" and puts its hypotheses—the crystalline pyramid of the Louvre, the gilded cherubs of the Pont Alexandre III—in the street for all to see. Above Haussmann's spacious boulevards, Parisian apartments are so cramped, one is practically forced out into the street. And what you find there is magic.

ISIS knew this and chose its targets accordingly. The 10th and 11th arrondissements, for instance, are not tourist-heavy or particularly luxe. Nor are they primarily occupied by French students, like the district around the Sorbonne. They are social estuaries where the city's various ethnicities and classes mix freely. One of the bars, Le Carillon, is run by Algerians. The Bataclan, the music hall where over 80 people died, had long been owned by Jews. As the newspaper *Libération* put it, the victims were defined by a certain "cultural openness, liberal habits and a cosmopolitanism that doesn't exclude a convivial kind of patriotism." As a result, there were 19 nationalities among the victims.

**THE MOOD IN PARIS** now is not vengeful but dignified and defiant. The Parisian way of life—the cosmopolitan way of life—is under attack, and the young are responding with a sort of joyful protest, clinking glasses of wine on terraces and congregating in crowded bars. They know that death makes sense only once we have experienced life, with its happinesses large and faint, its mournings, its incomprehensions and its absurdities. They know fanatics who detonate themselves may not fear death but they will never know what life really is. They know it is life itself terrorism is afraid of.

Paris meanwhile is an old city with an ancient motto: "*Fluctuat nec mergitur*," Latin for "Tossed but not sunk." Over the past 1,200 years, it has lived up to that creed, surviving siege by the Romans, the Vikings, the Jacobins, the Prussians and Hitler. Now the world watches and prays Paris will continue to survive this siege of fear as it has the others, with freedom, law and love. —*With reporting by* NAINA BAJEKAL/PARIS



**EUROPE ON EDGE** German police search a stadium in Hanover evacuated because of a bomb threat before a soccer match between Germany and Holland Nov. 17. The Paris attacks sparked similar security scares across Europe; two Air France flights bound for Paris were diverted due to bomb threats Nov. 17, and a Copenhagen airport terminal was briefly evacuated on Nov. 18. *Photograph by Markus Schreiber—AP*

## THE RISK REPORT

# How terror could kill the European project

By Ian Bremmer

THE TERRORIST ATTACK IN PARIS WAS almost certainly planned by ISIS militants in Syria, but Europe and the Middle East have been feeding each other's crises for some time. Five years ago, Europeans faced a serious financial and economic meltdown that called the very survival of the euro zone into question. Those quakes were felt in North Africa and the Middle East, where trade, tourism and remittances from locals sending money home from Europe all fell at once. That helped trigger the unrest that gave birth to the Arab Spring, a surge of turmoil in the region that generated fear and unrest that have not abated. The breakdown of order and security is now sending refugees and security threats toward Europe, and they're arriving at a time when the E.U.'s economy had only just begun to show new signs of life.

Given the number of refugees now in Turkey and Jordan and the number who des-

perately want out of Syria, the U.N. refugee agency estimates that just a fraction of this human traffic has already reached Europe. The E.U. has forecast that 3 million migrants could arrive in Europe by the end of 2016.

The migrants and the fear of more terrorist attacks will play a role in Britain's upcoming referendum on the future of its E.U. membership, and it will become a central issue in next month's regional elections in France, as well as its 2017 presidential election. But Germany is the most important country to watch. Chancellor Angela Merkel's willingness to accept hundreds of thousands more refugees into Germany represents a huge political gamble. German authorities have already documented over 700 attacks against migrants inside Germany in 2015. In the wake of the Paris attacks, her position is increasingly unpopular—in Germany and across the Continent. If domestic politics shifts against her, if the German government feels it must impose extraordinary controls on its borders, if the door closes on migrants, the rest of Europe will follow Germany's lead.

Make no mistake: these questions pose a greater threat to the broader European project than anything we've seen in decades. □



Merkel



## TRENDING



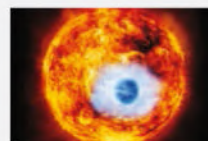
### ECONOMY

Japan entered a recession for the second time under Prime Minister Shinzo Abe as its **economy fell more sharply than expected in the third quarter**. GDP fell 0.8%, defying expectations and dealing a further blow to Abe's widely touted economic policies.



### RELIGION

Protesters said about 1,500 Mormons **resigned from the Church of Jesus Christ of Latter-day Saints** on Nov. 14 over a new policy that says the children of same-sex couples can't be baptized until they move out of their parents' homes.



### SPACE

The first analysis of **weather on a planet outside our solar system** found winds on a distant exoplanet reaching 5,400 m.p.h. (8,700 km/h), about 20 times faster than the highest wind speeds ever recorded on Earth and seven times the speed of sound.





## TRENDING



### WOMEN'S HEALTH

The U.S. Supreme Court will take up its **biggest case on abortion since 1992** in its new term, hearing a challenge to a Texas law imposing requirements on abortion clinics that critics say place an "undue burden" on a woman's right to end a pregnancy.



### DRUGS

Canada's newly elected Prime Minister Justin Trudeau gave an official order that **starts the process of legalizing marijuana**. The Nov. 13 mandate also called for a review of recent sentencing reforms, which include mandatory sentences for certain drug crimes.



### LANGUAGE

Oxford Dictionaries announced Nov. 16 that its "word of the year" is an **emoji expressing tears of joy**, one of the most-used icons worldwide. The wordsmiths said they recognized a pictograph for the first time because of the way it "transcends linguistic borders."

## ROUNDUP

### Pope Francis takes his message to Africa

LITTLE MORE THAN A WEEK AFTER HIS condemnation of the Paris terrorist attacks, in which he said that justifying violence in God's name is "blasphemy," Pope Francis was due to embark on his first African tour. The visit is meant to promote interfaith harmony and denounce religiously motivated violence in a region embroiled in conflict. The six-day trip, which starts Nov. 25, is the Pope's 11th pastoral visit since his March 2013 inauguration but likely the riskiest so far: international intelligence agencies have already warned of potential assassination attempts, and Vatican officials say they may have to cancel the final leg at the last minute, because of security concerns. Here's the agenda:

**KENYA** The tour begins in a country where the Somalia-based militant group al-Shabab has killed hundreds over the past three years in a series of gruesome attacks on university students, mallgoers and others. In Nairobi, Francis will tour one of the country's biggest slums to draw the world's attention to the plight of Africa's urban poor—a rapidly rising demographic. He's also expected to make a big speech on the environment in the Kenyan capital, days before world leaders gather for a U.N. climate summit in Paris.



**UGANDA** Francis is to celebrate a Mass in the township of Namugongo in honor of 45 Catholic and Anglican martyrs killed during anti-Christian pogroms from 1885 to 1887. He will also engage with evangelical church leaders who are competing with the Catholic Church for African believers. While it is not on his official agenda, the issue of gay rights is likely to come up: Uganda, like many other conservative Christian nations in Africa, has recently imposed draconian antihomosexual legislation even as the Pontiff has reached out to the gay community.

**CENTRAL AFRICAN REPUBLIC** The Pope will visit a camp for refugees fleeing a violent conflict that has pitted Christian militias against Muslim rebels; he also plans to meet with Muslim leaders and pray in the capital's central mosque. The U.N. said Nov. 17 that it plans to deploy an additional 300 peacekeepers to boost security, but with more than 61 killed in recent weeks in worsening violence, the Pope's security team may yet decide that the country isn't safe enough for his message of peace and harmony between faiths.

—ARYN BAKER

◀ *Pope Francis has visited 16 countries during his papacy, spending some 5% of his time in office overseas*

## POLITICS

### The Donald Trump mean-o-meter

The Republican presidential front runner stepped up his campaign of insults in a speech at Iowa Central Community College on Nov. 12. Here is a look at the most blistering put-downs.

—Zeke J. Miller



#### TRUMP ON IOWA:

"How stupid are the people of Iowa?"



#### TRUMP ON JEB BUSH:

"I said he was a low-energy individual, and it killed his campaign. Who ever heard of that? People said, 'You know, he's right.'"



## Milestones

### AGREED TO

The purchase of hotel chain **Starwood** for \$12.2 billion, by **Marriott International**. The deal would secure Marriott's status as the world's largest hotelier and bring its total global accommodations to 1.1 million rooms.

### BROKEN

The record for most passing yards in NFL history, by **Peyton Manning**. The Denver Broncos quarterback hit 71,840 career passing yards on Nov. 15, eclipsing Brett Favre.

### ELECTED

As mayor of Salt Lake City, **Jackie Biskupski**, the first openly gay mayor of a major Utah city. Biskupski, who isn't Mormon, said she hopes the church reconsiders its anti-LGBT stances.



*Jihadi John in Syria earlier this year*

### KILLED

## 'Jihadi John' ISIS executioner

'JIHADI JOHN,' THE BRITISH ISIS militant who was widely believed to be Mohammed Emwazi, must have known this was how his Syrian adventure would end: with his death near his new hometown of Raqqa. Emwazi, who appeared, masked, in videos showing the beheadings of hostages, was targeted in a Nov. 12 U.S. air strike that is believed by American and British intelligence to have succeeded.

It's unlikely to be much of a

blow. Yes, ISIS's loss of its gory social-media star is embarrassing. But PR men are cheap.

Schoolmates of Emwazi's told me he was just an ordinary boy, but shy and very easily led. Like many other jihadis, he went to Syria in search of license and adventure as much as to propagate any religion. He lived by the showy, medieval sword, and likely died by it. His tragedy was that no one told him the obvious: to get a grip.

—JAMES HARKIN

*Harkin is the author of Hunting Season: James Foley, ISIS, and the Kidnapping Campaign That Started a War*

## EXPLAINER Medication myths



A World Health Organization survey of about 10,000 people in 12 countries reveals widespread misconceptions about antibiotic resistance. Here are some common myths.

### MYTH 1:

**You don't have to take all the antibiotics you're prescribed.** Thirty-two percent of people think it's O.K. to stop taking antibiotics once you feel better. But not taking the full course means an infection may not be fully treated and can spur resistance.

### MYTH 2:

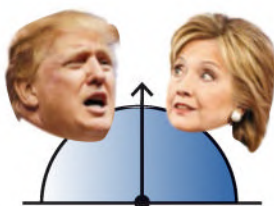
**Antibiotic resistance means the body no longer responds to drugs.** Seventy-six percent of those surveyed think this is true, when in fact it is the bacteria that become resistant and spread illness.

### MYTH 3:

**Only people who use antibiotics regularly are at risk.** Forty-four percent of people believe this, but in fact anyone can get an infection that's resistant to antibiotics.

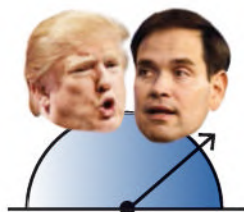
### MYTH 4:

**Antibiotics can be used to treat colds and flu.** Sixty-four percent of people in the survey think antibiotics can kick a cold. But viruses cause colds and the flu, and antibiotics are used only against bacteria.



### TRUMP ON HILLARY CLINTON:

"Honestly, outside of the women's card, she's got nothing going, believe me."



### TRUMP ON MARCO RUBIO:

"Weak on illegal immigration, like, weak like a baby. Like a baby. Not a good poker player, because every time he's under pressure he just starts to profusely sweat."



### TRUMP ON BEN CARSON

"If you are a child molester, there is no cure. They can't stop you. Pathological, there is no cure ... He said he was pathological."

**Sam Yagan** On Nov. 19, Match Group, the company that owns popular dating services such as Tinder, OkCupid and Match.com, was expected to start trading in an initial public offering that would value it at more than \$3 billion. Which makes this a big moment for Sam Yagan, the CEO of Match Group, a division of Barry Diller's media conglomerate IAC/InterActiveCorp. Dating apps, especially Tinder, have become an increasingly popular way for people to pair up. Now Yagan needs to make them a winner on Wall Street.

**CLAIMS TO FAME** In 1999, Yagan co-founded Spark.com, which published the popular online study guide SparkNotes and was sold to Barnes & Noble in 2001. He co-founded OkCupid in 2003, and it has since become one of the most popular dating websites. IAC's Match.com acquired OkCupid for \$50 million in cash in 2011. Yagan is also known for grooming early-stage entrepreneurs. In 2009 he co-founded the startup accelerator Excelebrate Labs, which is now known as TechStars Chicago.

**CURRENT CHALLENGE** Dating apps haven't seen much success in public markets so far. Zoosk, an online matchmaker that competes with services like Tinder and Match.com, withdrew its plans for an IPO in May 2015. Match Group's brands also face competition from later entrants such as Hinge, Coffee Meets Bagel and Hitch as well as established services like eHarmony.

**BIGGEST ADVANTAGE** Tinder, which was founded by Sean Rad and Justin Mateen and falls under Yagan's portfolio, is among the most popular dating apps. It was the most downloaded mobile dating app in North America during the three-month period that ended on June 30, the company said in its filing with the Securities and Exchange Commission.

**59M**  
active users of  
Match Group apps

**75M**  
messages sent daily  
across its apps

**63%**  
annual growth in  
monthly active users

**4.7M**  
paying members  
using its products

*Yagan wants  
Wall Street  
to swipe right  
on dating  
apps >*

**BIGGEST OBSTACLE** Cybersecurity is a crucial priority for any online company, but especially for dating apps since they host so much personal data. Match Group said in its IPO filing that it regularly experiences cyberattacks. When extramarital-dating site Ashley Madison was hacked earlier this year, email addresses and other account details for millions of its members were put at risk. Some members even had their information exposed online.

**CAN HE DO IT?** Match Group offers a mix of both paid and free services in various categories. Tinder, for example, is targeted more toward millennials and is made to be used on the go, while Match.com is more popular among those ages 30 to 49. This diversity gives the company a strong edge against the competition. Since Tinder is designed for smartphones and tablets, it also gives Match Group a solid mobile presence. Last year, comScore reported that smartphone and tablet usage accounted for 60% of digital-media time spent in the U.S.

—LISA EADICICCO





## Two reasons to make the nice list.

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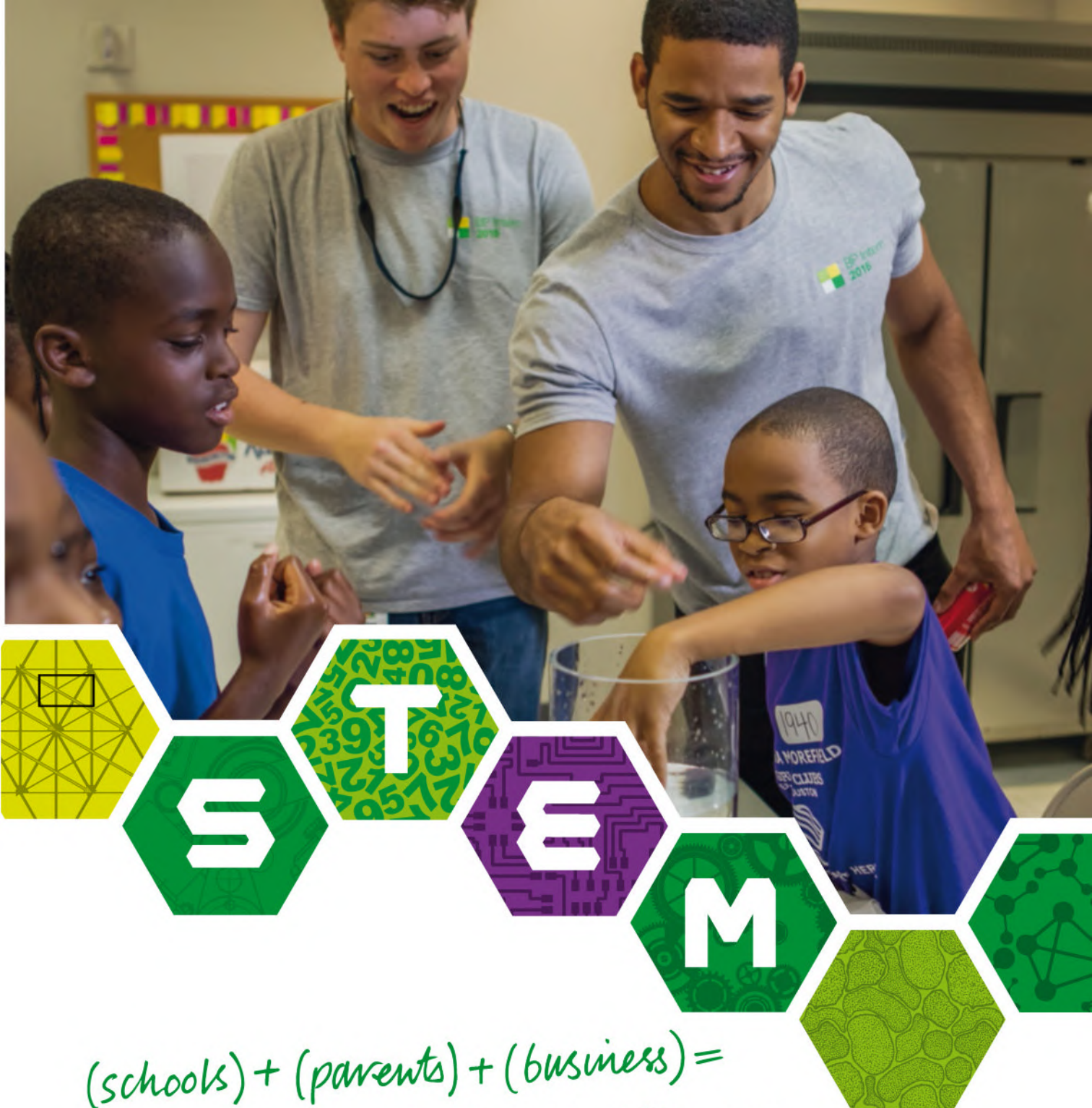
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*(schools) + (parents) + (business) =  
how we bridge the STEM skills gap.*

To fill the high-skilled jobs that will power our economy in the future, we need more students to study science, technology, engineering and math (STEM). That's why BP is working with partners such as the National Action Council for Minorities in Engineering to understand the STEM skills gap and find ways to close it. Schools, parents and businesses must work together to ensure STEM plays an important role in young people's lives. BP remains committed to this goal every day. For more on BP's 60-year commitment to education, and to join us in developing tomorrow's leaders, go to [bp.com/STEMed](http://bp.com/STEMed)



# Toys that aim to help train a new generation of engineers

By Victor Luckerson

WHEN DAN SHAPIRO WAS LOOKING FOR a game that could educate his 4-year-old twins about computers without keeping them glued to a digital screen, he turned to turtles. His Kickstarter-backed game, Robot Turtles, features no actual electronic reptiles—instead, preschool-age players issue commands to their parents to move cardboard-cutout turtles across a game board. The play style mimics the basics of computer programming, in which software code is written line by line. “We know that our children are going to grow up in a world surrounded by computers,” Shapiro says. “What I want for my kids is to be able to speak the language.”

Shapiro doesn’t seem to be alone in feeling that way: Robot Turtles has brought in more than \$600,000 in Kickstarter backing and sold more than 100,000 units. Parents are increasingly

interested in buying toys that will prepare their kids for careers in science, technology, engineering and math, or STEM. “They’re more attuned to what parents think their kids need to know for the future,” says Matt Hudak, a toy-and-game analyst for Euromonitor.

As a result, STEM toys are projected to generate \$26 billion in sales globally in 2015, according to Euromonitor. That includes everything from Robot Turtles to more traditional toys like Legos. And while kids are still using microscopes and chemistry sets, toy-makers are getting more adept at creating dynamic play experiences that teach new skills like programming and electrical engineering.

LittleBits, for example, are electronic blocks that children can snap together to assemble devices like an alarm clock or a machine that automatically blows

bubbles. The toys have been a hit with parents as well as educators and are now being used in more than 2,000 U.S. schools, says littleBits CEO Ayah Bdeir. “If you say the word *STEM*, it’s not necessarily a word or a field that kids are going to get excited about. You have to speak with technology and responsiveness and programmability and things that are exciting to them.”

More STEM toys are also beginning to focus on groups underrepresented in science and engineering fields. Last year the toymaker GoldieBlox earned acclaim for its construction toys aimed at girls. This fall, the company unveiled Ruby Rails, its first black action figure.

Exactly how much STEM jobs will be in demand in the future is a point of debate. According to the Bureau of Labor Statistics, the U.S. will have added 1 million STEM jobs from 2012 to 2022, for a total of 9 million. But the agency also notes that in some areas, like academic research, there’s actually a surplus of STEM workers. Still, Shapiro notes, the skills these toys teach can be applied to virtually any occupation. □



## GOLDIEBLOX

**Cost:** \$10 and up

**What it is:** Lego-like

building sets targeted at girls

**What it teaches:** Engineering and problem solving

**Age:** 4 and up



## LEGO MINDSTORMS EV3

**Cost:** \$349

**What it is:** A massive Lego set that can be assembled as multiple robot types and controlled via smartphone

**What it teaches:** Programming, construction

**Age:** 10 and up



## LITTLEBITS

**Cost:** \$99 for base kit

**What it is:** Electronic blocks that can snap together to create complex machines

**What it teaches:** Mechanical and electronic engineering

**Age:** 8 and up



## Q-BA-MAZE

**Cost:** \$25 for starter set

**What it is:** A marble maze made up of multicolored cubes that kids can build into imaginative shapes

**What it teaches:** Physics, fine motor skills

**Age:** 5 and up



## ROBOT TURTLES

**Cost:** \$25

**What it is:** A board game

**What it teaches:** Principles of computer programming

**Age:** 4 and up



## ROOMINATE

**Cost:** \$30 and up

**What it is:** A classic dollhouse equipped with circuits and motors to build functioning windmills or merry-go-rounds

**What it teaches:** Architecture, spatial skills

**Age:** 6 and up





## The many trials of Baltimore's rising prosecutor

By Josh Sanburn

WEEKS AFTER BALTIMORE WAS WRACKED BY PROTESTS following the April death of 25-year-old Freddie Gray in police custody, Prince held a “Rally 4 Peace” concert in the city. The show was meant to help the city heal, and the music legend unveiled a new single for the occasion: “Baltimore.” “Does anybody hear us pray,” Prince sang, “for Michael Brown or Freddie Gray?”

During the song, Prince brought a special guest on stage: Baltimore City state’s attorney Marilyn Mosby. On May 1, Mosby announced criminal charges against all six officers involved in Gray’s arrest in a remarkable news conference that brought the boiling city to a simmer. At the concert, Mosby came out with her husband, a city-council member, and waved to the crowd of thousands packed into the downtown arena—an unusually bright spotlight for a local prosecutor. The dramatic moment affirmed Mosby’s newfound role as a hero of Baltimore’s black communities, and epitomized what critics say is her penchant for publicity.

Mosby, 35, became an instant national figure through her forceful announcement of the charges against Baltimore police in Gray’s death, the most serious of which included

^  
*Mosby announces charges against six police officers on May 1*



**FREDDIE GRAY**

The 25-year-old Baltimore resident died in police custody April 19 from a severe spinal injury, sparking violent protests

second-degree murder. She was hailed by communities of color for standing up to police but vilified by law enforcement, who believed she sided with protesters. From legal experts, she faced criticism for acting too quickly, potentially overcharging and making inappropriate public statements.

These issues will come to a head on Nov. 30, when the first of six trials involving Gray’s death will begin. In New York City and Ferguson, Mo., grand juries last year decided not to indict officers involved in police-related deaths. But in Baltimore, Mosby has the chance to be the first prosecutor to obtain convictions against police since the Black Lives Matter movement took root.

In many ways, Mosby’s experiences have prepared her for this moment. Raised in Boston, she grew up in a family full of officers; her grandfather was a founding member of Massachusetts’ first black police organization. The summer before she entered high school, her 17-year-old cousin was fatally shot outside her home, an incident Mosby has described as key in setting her on a path toward a career in criminal justice. A few

MOSBY: ANDREW BURTON—GETTY IMAGES; GRAY: COURTESY OF MURPHY FALCON MURPHY



Lester Holt  
Paris



We go to the story  
so you get the story.

 **NIGHTLY NEWS**  
WITH LESTER HOLT

years later, Mosby received a scholarship to attend Alabama's Tuskegee University, the historically black college, and later graduated from law school at Boston College, where professors remember Mosby as tenacious. "Marilyn had a very strong sense of self," says Tracey West, a Boston College Law School associate dean who advised Mosby. "She did not have second thoughts."

After five years as a junior prosecutor and three in private practice, Mosby was elected Baltimore's top lawyer in 2014. The incumbent had a 3-to-1 fundraising advantage, but the newcomer won by double digits in part because she received strong support from Baltimore's black residents.

In her fourth month on the job, Freddie Gray died in police custody from a severe spinal injury a week after he was arrested, and Baltimore erupted. Mosby's office charged all six officers involved in Gray's arrest within 24 hours of receiving the police department's report on the incident. "It was a great symbolic victory for folks in Baltimore," says Tre Murphy of the Baltimore Algebra Project, a social-justice organization. J. Wyndal Gordon, a Baltimore defense attorney, says Mosby's decision to charge sent a very clear message to police: you will be prosecuted if something like this happens on your watch. "It was brave," Gordon says. "And it was just what the city needed. Right now, she is Baltimore's darling."

After the charges, Mosby became bigger than her office—making the rounds on national news networks, posing for photographer Annie Leibovitz in *Vogue*, showing up beside Prince. The attention galvanized critics who said Mosby seized the moment to raise her own profile. Others raised questions about her husband's connection to the case. Nick Mosby represents the neighborhood where Gray was arrested and is now running for mayor. (Mosby, who will lead a team of prosecutors in the case but won't be trying it herself, declined to comment, citing the upcoming trial.)

The criticism has gone national too. The New York City Sergeants Benevolent Association, an organization



*The criminal charges were celebrated by protesters in Baltimore*

### MARILYN MOSBY

**Age:** 35

**Occupation:** Elected Baltimore state's attorney in 2014

**Background:** Grew up in a family of police officers and saw her 17-year-old cousin fatally shot outside her home as a teenager

**Role in Freddie Gray trial:** Leading the prosecution of the six Baltimore police officers who arrested Gray

of 12,000 active and retired sergeants, placed Mosby on the cover of the group's magazine under the headline "The Wolf That Lurks" and called the officers' indictment a "legal atrocity."

**HER DECISION** to charge is also part of the debate over increased crime rates. A number of major U.S. cities, including Baltimore, have seen murders and shootings rise this year. (Baltimore announced its 300th homicide on Nov. 15—the highest annual toll since 1999.) FBI director James Comey and Drug Enforcement Administration chief Chuck Rosenberg have made statements that suggest they back a theory known as the "Ferguson effect," which holds that police have become more hesitant to use force, fearful their actions could be recorded and used against them. In Baltimore, police made fewer arrests in the month after Gray's death than in any month in the three years prior.

The case itself looks shakier than it did a few months ago. Mosby initially said the switchblade Gray carried was legal. But defense attorneys representing two of the officers argue the knife was illegal, justifying the arrest, and

charges of false imprisonment brought by Mosby were dropped after being presented to a grand jury. In court motions, the officers' defense attorneys claim the prosecution withheld evidence showing that Gray may have tried to injure himself during the arrest and that he had a history of so-called "crash for cash" schemes in which he attempted to hurt himself during prior arrests in order to win settlements against the city. Those attorneys have also questioned in court filings the nature of a meeting between an assistant medical examiner and the prosecutor's office before the autopsy findings were released.

William Porter, who has been charged with manslaughter, second-degree assault and misconduct in office, will be the first to go on trial. The five other cases may hinge on Porter, if he testifies. According to the *Baltimore Sun*, Porter reportedly told two officers, including the driver, Caesar Goodson Jr., that Gray appeared to need medical attention in the back of the police van, where officers failed to place Gray in a seat belt. Defense attorneys familiar with the case say Porter's testimony could show that other officers were negligent in Gray's death, aiding the prosecution's case against them.

Still, legal experts question if the prosecution has a strong enough case. "It would be difficult to imagine a second-degree murder conviction, nor should there be, based on what we know," says Douglas Gansler, a former Maryland attorney general.

Mosby has defended the charges, telling CNN in May that "you should not bring charges if you don't believe that you have probable cause that these individuals are responsible."

When Mosby was in law school, she took an ethics course with R. Michael Cassidy, who says a regular theme in the class is that it's sometimes appropriate for prosecutors to charge the higher crime in a close case if it will more accurately reflect the community's interest.

"The prosecutor represents multiple interests," Cassidy says. "That's why we have elected district attorneys."

It may be that Mosby took her law professor's advice when she announced criminal charges in May. But it's not clear such a strategy will win in court. □





# TIME

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## What a knockout

The formerly undefeated MMA fighter Ronda Rousey got a big surprise while defending her UFC title on Nov. 15 when underdog Holly Holm knocked her out with a kick to the head in the second round. Rousey, the strong favorite, was briefly hospitalized after the fight in Melbourne.

*Photograph by Paul Crock—  
AFP/Getty Images*

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Karl Lagerfeld. Model, entrepreneur, philanthropist and Wall Street Journal reader.

Photography by Craig LaCourt

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# The View

'THE ONLY TIME I VOTE IS IF MY SOUL IS MOVED TO DO SO.' —PAGE 44



*University of Missouri football players spoke on Nov. 9 following the president's resignation*

## ACTIVISM

### Why athletes use their platform to effect change off the field

By Kareem Abdul-Jabbar

AMERICA HAS ALWAYS HAD A COMPLICATED relationship with its athletes. When it comes to game day, athletes are warriors revered by millions, emulated by children, lionized in living rooms and bars for their acrobatic actions on the court or field. Their faces are on clothing, their likenesses in video games. But when it comes to Election Day, or any other day that involves expressing an opinion about social or political issues, athletes are told to keep their politics as private as a jockstrap. Financially, mixing sports and politics is bad for business. Fans want to indulge in the escapism of the sport without the heavy baggage of real life interfering.

Despite the fact that I've been writing about politics longer than I played sports, many of my critics begin their

comments with "Stick to basketball, Kareem." By dismissing someone's views based on their profession, such critics are also dismissing their own opinions as frivolous ("Stick to plumbing!" "Stick to proctology!"). What vocation makes a person an expert on all social or political matters? As we've seen during the presidential campaign, even the candidates aren't experts.

The idea that an athlete can't think is a stereotype of the dumb jock who is too busy jamming adorable kids into lockers to know anything about the world around him except what Coach tells him. Those days are over, folks.

Thirty football players from the University of Missouri created instant cultural change when their boycott of team activities over the school president's handling of race issues forced

his resignation. The shame is that until the boycott threatened to cost \$1 million in fees for canceling a game, university officials had been impassive.

But the University of Missouri episode is just the latest example of high-profile athlete activism. Last November, five players from the St. Louis Rams took the field with a “Hands up, don’t shoot” gesture to protest the shooting of Michael Brown in Ferguson, Mo. The following month, LeBron James, Kyrie Irving and other NBA players wore I CAN’T BREATHE shirts before a game. And in the days after the attacks in Paris, Green Bay Packers quarterback Aaron Rodgers won support for condemning a fan who shouted, “Muslims suck.”

For some, the athlete as activist represents a welcome evolution. For others, it’s a sign of the end times, sports edition, with athletes shattering the fourth wall of sports theater. What if, now that athletes have found their voice, they won’t shut up? The genie is out of the locker, and no amount of Ace bandages can bind him up again.

Governments have long used athletes as positive PR for foreign policy. In 1971, the U.S. table-tennis team’s friendly exchange with China kicked off ping-pong diplomacy. And in 1980, the U.S. and more than 60 other countries boycotted the Summer Olympics in Moscow to protest the Soviet Union’s invasion of Afghanistan.

When countries use athletes to promote policy, the athletes are given little choice. But when athletes stand up for causes they believe in, they are often condemned. Muhammad Ali learned that lesson in 1967 when he refused to be drafted into the Vietnam War on religious grounds and was convicted of draft evasion and stripped of his heavyweight title. The Supreme Court overturned the verdict, but Ali lost four years of fights—and millions of dollars. Ali’s sacrifice inspired me to boycott the 1968 Olympics to call attention to the rampant racial injustice of the time, which resulted in people calling me un-American. (Ironically, the athletes who complained about the government boycotting the 1980 Olympics were also called un-American.) Some black athletes who participated in the 1968 Olympics chose to use it as a platform, though. Gold medalist Tommie Smith and bronze medalist John Carlos, both African American, raised black-gloved fists in a Black Power salute during the 200-m medal ceremony.

Forty-seven years later, that’s what today’s athletes are doing: adding their voices to the national conversation on racial disparity. If they sometimes need to flex their power a little to be heard, well, they’re just following in the same tradition as their government. Democracy is not a solo concert; it’s a choir of voices blending to create a beautiful sound. Sure, there’s a discordant note now and then, but even those sounds help the rest of us harmonize. □



Yale was one of many schools where students stood in solidarity with Mizzou on Nov. 12

## An epidemic of discontent

Students across the country have risen up in protest recently over racial inequality in a range of areas, from underrepresentation to ineffective leadership to Halloween costumes. Is all of the outrage warranted?

### The new millennial morality

By Bradley Campbell and Jason Manning

From racist insults to political disagreements to terms that trigger unpleasant memories, campus activists believe words cause great harm. Students thus take to social media, stage demonstrations or, in extreme cases, starve themselves. Their cause is just, their plight is severe, and others must help. We might refer to these variations as different moral cultures. But what accounts for the increased sensitivity and dependency? It likely matters that student populations include members of multiple cultural groups interacting as equals. Social media provide ready access to the court of public opinion and to officials who might not otherwise notice that a student was offended. Moral sensitivity combined with moral dependency means that nothing is beneath concern, nor can concerns be handled without calls for official action.

Campbell and Manning are the authors of *Microaggression and Moral Cultures*



‘What’s the point of a liberal-arts education if the only ideas expressed are ones with which we already agree?’

Beni Snow, Princeton class of 2019





The University of Southern Mississippi



A "Black Out" march at the University of Wisconsin at Madison

## Zero tolerance is the only way to stop racism

By David Boren

LAST SPRING AT THE UNIVERSITY of Oklahoma, a video went viral of a small group of our students singing a violent racist chant. We were shocked. We thought such an event could not happen here.

I was hosting a group of American historians for dinner when a staff member showed me the video. I immediately decided that the fraternity would be closed within 24 hours and its affiliation with the university canceled. The next day the windows of the building were boarded up, and the Greek letters were pried off the building. The two students

found most accountable withdrew permanently from the university. That morning, while it was still dark, I spoke to several thousand students on campus and marched with them as they chanted, "Not on our campus."

One of the most important conversations took place in private in my office. About a dozen African-American student leaders met face to face with the officers of the responsible fraternity. The African-American students felt excluded, endangered and disrespected. The fraternity officers seemed stricken by what they heard and apol-

ogized. It was a moving experience for all of us. Today, we are a better university and an even stronger community.

Quick, decisive action must be taken to confront racism. There is no time to advise with lawyers, vice presidents and others. There is only time to consult one's own conscience and moral compass. We cannot remain silent. Often we say to ourselves, "Why can't we all just love and respect each other?" We can—but it's up to each one of us to take action.

*Boren is the president of the University of Oklahoma*

## Prepare for more protests

By Eddie S. Glaude Jr.

What we saw in Columbia, Mo., was different from the protests of the 1960s and '70s. The new student protesters are shaped by the startling contrast of the nation's first black President and the Black Lives Matter movement. They have seen the viral videos of police brutality, and many have watched family and friends struggle to recover from economic devastation. They have witnessed, some even participated in, the convulsions of Ferguson and Baltimore.

And they have taken to heart the lessons of those protests. Today's students revealed a kind of power in coalition that the first wave of black student activists in the 1960s simply did not have but whose labor made possible. What's more, these activists have given students at other schools a blueprint for change. Can you imagine what would happen at Ohio State or the University of Alabama or UCLA or any other major institution if similar coalitions dared to act in a similar vein? The nation has been put on notice. We should brace ourselves for more protests to come.

*Glaude is the author of the forthcoming book Democracy in Black*

*'African-American representation on the football field does not mirror that in the classroom. Non-Hispanic whites make up 58% of undergraduates, while black students constitute only 14%. But black men comprise 57% of college teams, on average.'*

*Diane Roberts is the author of Tribal: College Football and the Secret Heart of America*



RETIREMENT

# Your kids' financial education should start much earlier than you think

By Dan Kadlec

BY THE AGE OF 3, CHILDREN SHOULD KNOW HOW TO TAKE turns, walk up stairs and get dressed without help, developmental experts say. They should also be prepping for retirement.

Wait. What? Doesn't this take financial planning to absurd lengths? No—it only seems that way. With American pension systems in a lasting state of erosion, there is no such thing as starting too early. Consider that an extra 10 years of portfolio growth can mean the difference between a nest egg of \$1 million and one of \$2 million at age 70.

Not that anyone expects a child to think in such terms. Yet age 3 is when executive-function skills—like the ability to control impulses and parse information—enter rapid development, according to research from the Consumer Financial Protection Bureau (CFPB) in its annual financial-literacy report, released in October. By fostering these skills at an early age, parents just may put their kids on a glide path to long-term financial security. “We’re not going to teach a 3-year-old efficient portfolio management,” says Ted Beck, CEO of the National Endowment for Financial Education. “But this is not too young to talk about smart choices.” These discussions lay the groundwork for wiser saving and spending decisions far into the future, Beck says.

This year the JumpStart Coalition for Personal Financial Literacy, a nonprofit, updated its widely accepted objectives for school-based financial education—and for the first time it included benchmarks for kindergartners. Kids at this stage should know that a fair trade benefits both parties, different tasks have different rewards, and a need is different from a want. The White House has an educational website with similar benchmarks for preschoolers.

**IF IT SEEMS AS IF** we’re asking a lot of our toddlers, it’s because the stakes are high. Last year results from the Program for International Student Assessment showed that the average 15-year-old in the U.S. ranks in the middle of the pack among youths from 18 developed nations in terms of financial ability, below those in Poland and Latvia. And in November, an assessment from the Global Financial Literacy Excellence Center (GFLEC) at George Washington University confirmed American mediocrity: adults in the U.S. rank 14th among 143 nations. Don’t be fooled. The vast majority are underdeveloped economies like Somalia and Angola. Developed nations such as Denmark, Canada and Germany leave the U.S. in the dust.

Adding a sense of urgency, a new report from the Council for Economic Education next year is expected to show almost no progress in the number of high schools requiring a course in economics or personal finance. Research from the University of Wisconsin shows that young adults who were required

## WHY IT MATTERS



**3 out of 4**  
Number of U.S. college students with credit cards who are unaware of late-payment charges



**56%**  
Percentage of U.S. teens who plan to save some of their income, down from 89% in 2011

SOURCE: THE COUNCIL FOR ECONOMIC EDUCATION

to take a personal-finance course in high school had higher credit scores and fewer missed payments. “You don’t become financially literate by breathing the air,” argues Annamaria Lusardi, academic director at GFLEC. Countries at the top of the heap in the center’s study have strong educational systems that in many cases stress math, she says.

Some experts believe setting the young on a better financial path would also shorten recessions and help mitigate income inequality. More than 1 in 3 workers spend three or more hours a week at work stressed about their finances. “That’s a lot of lost productivity,” says Gail Hillebrand, associate director of consumer education and engagement at the CFPB. Nan Morrison, CEO of the Council for Economic Education, points to the “double whammy” that youth from low- and moderate-income families face. They struggle the most with student debt and tend to shy away from courses that lead to the best-paying jobs. “Personal finance is an important lever to help in these areas,” Morrison says.

**GIVING YOUR KID** a head start isn’t as daunting as you may believe. At [moneysasyougrow.org](http://moneysasyougrow.org), the White House’s advice site, leading research has been condensed into simple lessons. When children are ages 3 to 5, parents should reinforce four financial concepts: you need money to buy things; you earn money by working; you may have to wait to buy something you want; and there is a difference between things you want and things you need.

Consider easy base-building conversations with kids about how playing with a friend is free but video games cost money, how people they encounter like bus drivers and painters are at work, why you make choices while shopping and why it is worth it to wait, if they must, for a turn on the swing. Baby steps, for sure, but vital ones. □



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## Sister Souljah's new moment

By Daniel D'Addario

SISTER SOULJAH DOESN'T WATCH TV anymore—she says the VH1 reality series *Basketball Wives*, “the show with all of the women who are not wives at all,” sapped her appetite for the medium a few years ago. But she’s aware that her name comes up a lot. “I receive calls all the time saying, Sister Souljah, they mentioned you on CNN or *Orange Is the New Black*! This news anchor mentioned you!”

Sipping mineral water at a Whole Foods on Manhattan’s Upper West Side, she pauses. “And none of the mentions have involved an interview, a meeting, nothing.”

Who needs an interview to know what a Sister Souljah moment is? In 1992, the then rapper entered the lexicon when Arkansas Governor Bill Clinton, eager to differentiate himself from the rest of the Democratic presidential field, attacked her for supposedly fomenting hate. After that year’s riots in Los Angeles, Souljah had said in an interview that “if black people kill black people every day, why not have a week and kill white people?” Clinton compared her to David Duke, the former politician, convicted felon and KKK Grand Wizard. Souljah stands by what she has said. “If you ask me my view, even if it’s not your view, you have to handle that,” she says. “Don’t tell me I hurt your feelings. I’m not your kindergarten teacher.”

But in the past 16 years, she’s moved beyond the role of national provocateur and into that of successful novelist. That reference on *Orange Is the New Black* isn’t to anything Clinton said; it’s that Souljah’s books are in the prison library. Her five novels, including her newest, *A Moment of Silence: Midnight III*, out this month, have sold nearly 2 million copies, according to her publisher. In the acknowledgments to *A Moment of Silence*, Souljah reserves special thanks for the prison population for having “purchased, passed around, shared and discussed” her work.



“My idea is live my life respectfully so I can be respected,” says the writer

Souljah reads little fiction—her favorite recent books are Mike Tyson’s memoir, *Undisputed Truth*, and Jeremy Scahill’s national-security investigation, *Dirty Wars*. But she takes credit for creating “a renaissance, or what Chuck D of Public Enemy would call a revolution, of reading.” Her first novel, *The Coldest Winter Ever* (1999), is credited with helping popularize street lit, or urban

literature—a genre that began during the Black Power movement, when a prisoner writing under the pen name Iceberg Slim put out a memoir that circulated outside traditional bookstores. Today the genre thrives in American cities, placing an unapologetically melodramatic cast on all too real American experiences. Its impact can be felt in the manner that, on TV, *Empire* merges social consciousness with soap. Indeed, *Empire* co-creator Lee Daniels broke out in Hollywood with his adaptation of the street-lit novel *Push*; it became the

Oscar-winning film *Precious*. As a genre, street lit rose to prominence being sold literally on the street, in self-published or independently published editions. *Push* author Sapphire and erotica author Zane are among Souljah's most prominent contemporaries; both, like her, work with major publishers.

It's little wonder then that Souljah is uncomfortable with the street label: "I'm a college graduate, and if I read something like *Romeo and Juliet*, I'm reading about a gang fight, I'm reading about young love, young sex, longing. I'm reading the same themes that I'm writing in my books. So if somebody comes along and says, 'Yours is street literature'—what was Shakespeare's?"

Souljah's ambitions are certainly Shakespearean. *A Moment of Silence* is her fourth novel since 2008; at 535 pages, it follows her long-running character Midnight (who'd been on a sojourn in Japan in 2011's *Midnight and the Meaning of Love*) into prison, where he discovers just how innocent he used to be. When Midnight, a Sudanese Muslim in Brooklyn, sees a leaflet forbidding sex between prisoners, he assumes it's to protect female guards.

The book tackles expansive themes, including honor ("Honor is honesty in action, fairness in action, and integrity in action," Midnight says) and the collision of faith and the modern world. "Women can do everything," Midnight tells a love interest. "But women should do it among women, and men among men." (Souljah denies that she's espousing any particular views of her own in presenting her characters' views. "When I'm writing, I'm totally comfortable and I'm not thinking about how people will feel about it," she says. "I'm thinking about the craft of storytelling, things that are woven very beautifully like a fine carpet.")

It's a book robustly packed with both incident and thought. "I feel good that some people may be swept away by *Fifty Shades of Grey*," Souljah says, "but there's a whole crowd that loves these stories that go much deeper."

In order to facilitate her revolution of reading, Souljah works within the mainstream publishing industry, which is largely though not exclusively staffed with white editors. Asked if the

industry is too homogeneous, Souljah scoffs, "That's a nice euphemism." She's willing to let her track record serve as her answer. "I sell books in a community where people share books," she says. "I sell books to the youth who borrow them from the library. If there was a person in publishing who didn't want to be in business with Sister Souljah, you would be looking at a fool."

**MIDNIGHT OFTEN TELLS** the reader exactly what he's thinking in plain-spoken philosophical terms. In that way, he's a lot like his creator, who chooses her words carefully but has no trouble lobbing cultural critiques. Though she has never watched the show, Souljah will speak out about her distaste for *Scandal*'s depiction of Kerry Washington's character ("The way you conduct yourself as a woman—my idea is live my life respectfully so I can be respected"). Fittingly for a former MC who released an album in 1992, she follows the state of hip-hop; she finds its current practitioners wanting. Referring to Kanye West, she says, "He's not Chuck D. There are people that love liquor, wine connoisseurs. You know the difference when you're drinking well-aged wonderful wine or some cheap thing. I'm just a very high-quality

person. Even when I was the poorest girl from the Bronx, living in the projects, eating welfare cheese, I've always been a high-quality female."

Souljah will speak only in vague terms about the presidential campaign, in which the wife of her onetime detractor is a front runner. "The only time I vote is if my soul is moved to do so," she says. "If people are caught in the grips of choosing between eight or 10 candidates they hate—what is that? It's almost like you are a political hostage."

But what does she think of Hillary Clinton? She pauses for a long moment, then pulls out an unsealed envelope. "I want to control what I say so that I can be quoted properly. I have this past history of being misquoted or misunderstood." She slides an index card across the table. It reads, "She reminds me too much of the slave plantation white wife of the white 'Master.' She talks down to people, is condescending and pandering. She even talked down to the Commander in Chief, President Barack Obama, while she was under his command!"

Souljah has prepared two more index cards, one indicating that racism's power is such that Obama is "fearful and powerless to stop his military and police force from executing innocent people based on race." This is the same rhetorical framing, more or less, as Souljah's message in the 1990s, that black people in America are, despite their best attempts at transcending a violent system, powerless. And yet it feels far less controversial, possibly even obvious, today.

"One of the things that I tried to make clear," Souljah says, "is that racism is a system of power. And that system did not go away. There have been changes in the nuances of it, but the system is still intact, and it's still institutionalized." Out of the spotlight, she's able now to communicate her ideas through fiction that keeps her readership engrossed year after year. It's a use of her fame that's more comfortable, perhaps, than being a punching bag for politicians.

Not that Souljah minds. "People say, 'What is a Sister Souljah moment?' And I say, 'That's when you meet a beautiful, powerful woman—and you just can't forget her.'" □

#### AFTER MIDNIGHT

Souljah published her first *Midnight* novel in 1999 but waited nine years for a follow-up; *Moment* is fifth in the series





## This pill can stop the spread of HIV. Can doctors get it into the right hands?

By Alice Park

### HUMAN RIGHTS CAMPAIGN

The civil rights group called for insurers to cover PrEP for anyone who needs it

### WORLD HEALTH ORGANIZATION

Since 2012, the group has endorsed PrEP as a way to prevent HIV infection among those at risk

### CENTERS FOR DISEASE CONTROL

The agency recommends PrEP for anyone at increased risk of HIV infection, including IV drug users and sexually active people

### SAN FRANCISCO

The city is providing PrEP free to anyone who is at high risk of acquiring HIV and wants to avoid infection

### WHO'S CATCHING ON

The drug, called PrEP, is gaining more support from public-health leaders around the world

SINCE 2012, WHEN THE FDA approved a drug that could prevent HIV transmission, critics have worried that the mere existence of such a pill would promote unsafe sex and cause HIV infections to surge. But a new study, published just before World AIDS Day, proves them wrong.

Reporting in *JAMA Internal Medicine*, researchers show that providing PrEP, short for pre-exposure prophylaxis, to men who are at high risk of contracting HIV dropped their rates of HIV infection dramatically. In the study, conducted at health centers in three cities, 437 men and transgender women took a PrEP drug called Truvada for nearly a year. In that time, all but two people remained HIV-free. (Those who were infected showed extremely low blood levels of the drug, indicating that they took only about half their required doses.)

Even more important, Truvada didn't appear to make users more promiscuous or reckless about their risk. The people who reported engaging in the riskiest behaviors for getting infected also showed the highest blood levels of the

drug, meaning they were taking their daily doses. In that time, the incidence of other sexually transmitted diseases (which Truvada doesn't treat) remained high but also didn't go up.

Earlier studies have shown that PrEP can lower a person's risk of getting HIV by as much as 90%. But because the drug was tested in lab-based research settings, experts questioned whether it would work in the real world, where people are much less likely to dutifully take their pills at the proper doses.

Encouraging as the study results are, the existence of PrEP alone can't stop HIV's spread. "These studies show yet again that PrEP works," says Dr. Anthony Fauci, director of the National Institute of Allergy and Infectious Diseases, which provided one of the grants to support the research. "The issue is, Can we get PrEP to the people who really need it?"

In their analysis, the researchers noticed a worrisome trend: while all the PrEP takers showed protective levels of the drug in their blood, they were lowest in African Americans, suggesting

that those men were not taking the drug every day. Dr. Albert Liou, one of the authors from the San Francisco department of public health, believes that cultural barriers—perceptions about HIV and mistrust of the medical system—may be contributing to that lower adherence.

Fauci and Liou both note that if it's not distributed in the right way, there's a danger that PrEP will further entrench disparities in HIV incidence and promote resistance to the drug. PrEP was provided free to the study subjects but costs \$8,000 to \$14,000 a year. And while cities like San Francisco make PrEP available at no charge to anyone who is HIV-negative but at high risk, most cities have not allotted such funds for HIV prevention. "We know if we prevent an infection, it saves more than \$350,000 over a lifetime for a person in health costs," says Fauci. "So it's definitely an economically sound approach."

It's time, he says, to follow San Francisco's lead and figure out ways to make PrEP available to those who can benefit most. "Enough is enough," Fauci says. "We have enough data, so let's do it." □

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*Armed police take aim  
in Paris' Place de la  
République during a  
false alarm on Nov. 15*

PHOTOGRAPH BY  
WILLIAM DANIELS



# BEATING ISIS

The war against the terror group  
requires the kind of leadership  
that has gone missing

By David Von Drehle





# Whatever the world has been doing about ISIS, it's not working.

A Russian passenger jet blown up over Egypt. Beirut's deadliest suicide bombing in 25 years. A Friday night in Paris transformed into a bloodbath—the worst in France since World War II. Those attacks, the work of a mere fortnight across three countries and all claimed by the terrorist group, killed nearly 400 people and wounded even more.

The synchronized mayhem in the City of Light on Nov. 13 shook the foundations of the European Union, with its wide-open borders and paltry defense budgets. A gloating ISIS spokesman released a statement saying the attack was but “the first of the storm.” A former CIA chief predicted grimly that America’s turn is coming. A raid in a Paris suburb on Nov. 18 that left two people dead—including one woman who blew herself up as police approached—may have narrowly prevented the next attack in France. “We are all afraid,” says Zinbab Hadri, a Paris resident who witnessed the raid. “We are all victims of these madmen.”

It was another turning point in ISIS’s history of mayhem and misery. Previous turns since the movement caught fire include the capture of the Iraqi city of Fallujah—where over 100 American troops gave their lives during two key battles of the Iraq War—in early 2014, the seizure of oil-rich Mosul five months later, the proclamation of a restored caliphate and the escalating sadism of ISIS rule. All these turning points, it is now obvious, turn in the same direction.

A downward spiral.

That’s how things appear to most of the reeling world, which is why people search for a leader to tell them what happens next. The early results were dismaying. French President François Hollande promised to “eradicate” ISIS, but everyone knows that France lacks the military tools to deliver the all-out war he promised. Other European officials look nervously at the tide of Syrian refugees streaming onto the Continent—whom one of the plotters may have posed as en route to Europe, according to a possible match of a passport found out-



PREVIOUS PAGES: PANOS; THESE PAGES: CHRISTIAN HARTMANN—REUTERS



*French soldiers secure the area after a raid on terrorism suspects in the Paris suburb of St.-Denis on Nov. 18*



side the soccer stadium after the Nov. 13 attacks—and put up their fingers to test suddenly shifting political winds. In the U.S., Republican governors, lawmakers and presidential candidates jockey to see who could be tougher on both ISIS and the traumatized Syrian refugees suddenly considered a dire threat.

Which leaves President Obama, who has always been wary of leading the free world. Facing the press at an international summit in Turkey, he was weary and querulous when the world wanted galvanizing. The carnage in France he called a “setback”—albeit a “terrible and sickening” one—on a path where “there has been progress being made.” In the fashion of struggling commanders down through history, he found solace in data amid the smoke of an apparent defeat. Many bombing runs have been flown. Some square miles have been liberated. And if you think three major terrorist plots in two weeks is a lot, try counting all the plots that have been prevented.

Obama promised “an intensification,” but no changes, in “the strategy that we are putting forward,” which is, he insisted, “the strategy that ultimately is going to work.” Liberty-loving people would like to believe him, but the passionless Obama seemed barely convinced himself. In the aftermath of the worst terrorist attack in

the West in over a decade, the President came across as impatient and irritable. “I just spent the last three questions answering that very question, so I don’t know what more you want me to add,” he grouched to reporters.

What was wanted was the same thing people always want when they face a threat to their way of life: a leader who gives voice to their shared strength and lights the path to victory, however arduous. Barack Obama used to know this. The man who was elected in 2008 had an instinctive feel for inspirational leadership. Somewhere along the way, his disdain for his audience took over.

But Obama’s problem in rallying the world was not, as some aides suggested, a lack of understanding by his listeners. People can see that ISIS persists despite Obama’s dismissal of it, nearly two years ago, as a terrorist “jayvee team” to al-Qaeda’s varsity. They can see that a regional disaster has metastasized into a global menace, thanks to its sophisticated, agile, often highly encrypted Internet operations, which woo young, disaffected recruits with a thrilling mixture of torture videos, stirring music and calls to join a world-historic cause.

People learned, even as the bodies were being counted in Paris—129 dead in the immediate aftermath, with many

others badly wounded and fighting for life—that France is home to far more terrorism suspects than French authorities can keep track of. At least two of the killers had been flagged as suspicious by authorities, yet neither was being watched: it takes at least 20 agents to keep track of each potential terrorist.

People learned that Belgium is so lax in its antiterrorism efforts that a neighborhood just across a canal from Brussels—the capital of the E.U.—has become a hotbed of European terror plots. As Belgian Minister of Security and Home Affairs Jan Jambon put it disconcertingly, “We do not have things under control at this moment.”

As for those bombing sorties on the President’s spreadsheet, which supposedly kill 1,000 terrorists per month? They haven’t stopped the flow of ISIS recruits to and from the caliphate. That \$500 million U.S. project to train pro-Western fighters to take on ISIS in Syria? Abandoned as an utter flop. The Pentagon plan to rally an Iraqi army to liberate Mosul last spring? A figment wrapped in a pipe dream.

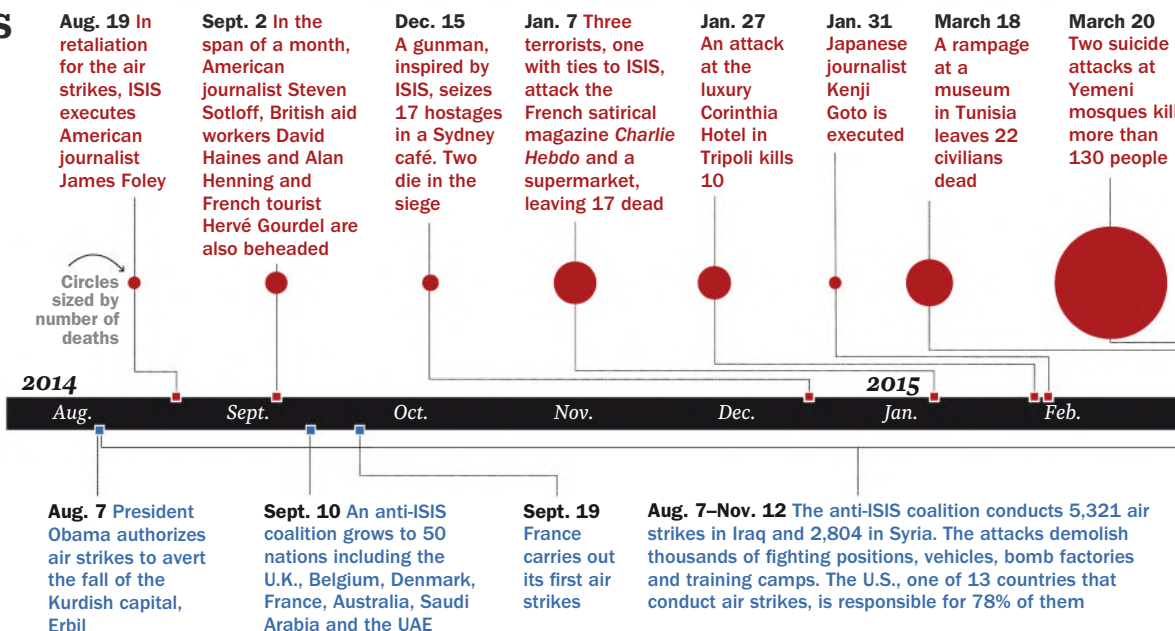
Because people understand these facts and others, it will take more than a grouchy recitation of his strategy for the President to convince the world that his plan is the best available. Yet what makes

## ISIS EXPLODES

In January 2014, a rebel group then affiliated with al-Qaeda took over the Iraqi city of Fallujah. President Obama called the extremist group, which would later be known as ISIS, a “jayvee team” that lacked the capacity to execute major terrorist plots. Since then, the group, its affiliates and the lone-wolf militants it has inspired have engaged in murderous acts around the world. Here are ISIS’s most notable and deadly attacks and the international response.

■ **ISIS attacks**

■ **International response**



this situation so unnerving, and the need for leadership so acute, is that in spite of all the signs to the contrary, Obama may actually be right.

#### A PROBLEM FROM HELL

ISIS IS A PARTICULARLY DIFFICULT problem because it starts with this distressing fact: the forces closest to it aren't sure they want to solve it.

The Islamic State is a fibroid of territory enmeshed in a cat's cradle of ethnic, tribal, religious and geopolitical strands so densely tangled as to defy solution. Part of it lies in Syria, a chaos of competing factions trying to overthrow a murderous tyrant, Bashar Assad. Assad is propped up by Iran and the anti-Western Vladimir Putin of Russia. Assad is clinging to power in the face of Western demands for his ouster. ISIS might help him do it, because as long as the caliphate exists, he looks arguably less monstrous by comparison.

Iran, the leading Shi'ite Muslim nation, is preoccupied with shoring up allied governments in Damascus and Baghdad, and lacks an impetus for a full-scale assault on the jihadists. As for Lebanon, which also shares a border with Syria, the dominant Hizballah faction will take its cues from Tehran. Saudi Arabia is Iran's wealthy nemesis. The kingdom might

## ISIS is a fibroid of territory enmeshed in a cat's cradle of ethnic, tribal, religious and geopolitical strands

be able to rally Sunnis against ISIS—but probably won't if the outcome could be a stronger Iran.

Other rivalries loom large in the infected region. The ethnic Kurds of northern Iraq and Syria have raised the only effective anti-ISIS force to engage so far. But Kurds have long been enemies of the Turks, so much so that Turkey, a member of NATO, is using the pretense of war on ISIS to bomb them. Forced to choose between honoring the Western alliance and preventing the rise of a Kurdish nation, Turkey would likely stick to old hatreds.

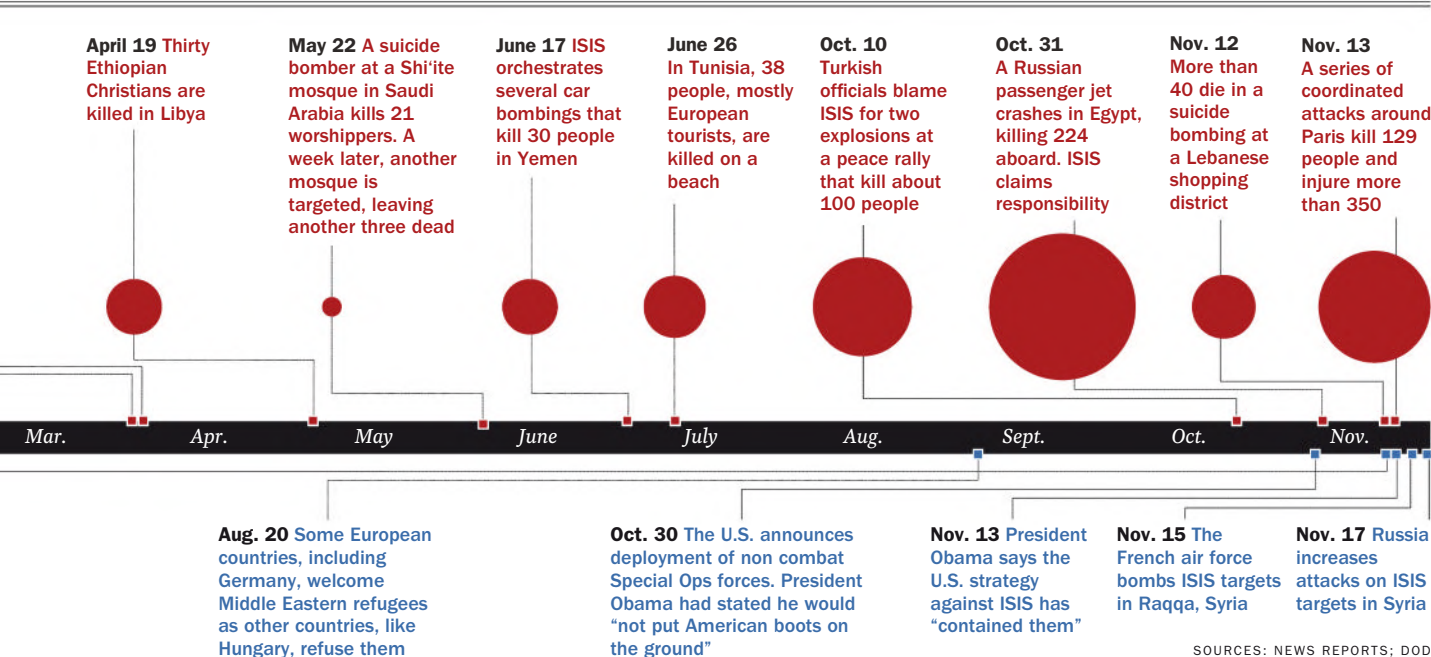
Analysts and candidates who fill the airwaves with easy talk of "taking out ISIS," "establishing safe zones in Syria" or "strengthening the Kurds" are skipping the most difficult questions. For every

key player in the region who might join in one of those projects, there is sure to be at least one other key player adamantly opposed. And unlike the U.S., those players are in the region forever. Which means that temporary solutions won't do.

Furthermore, ISIS is different things in different places: in Syria and Iraq it is a military force and quasi-state; in North Africa and Southeast Asia, it is a loose network of radical movements like Boko Haram in Africa, the ISIS affiliate in Libya and the Sinai insurgency in Egypt; in Europe and the U.S., ISIS is an extremist ideology binding would-be terrorists and their hangers-on.

Eradicating ISIS in Iraq and Syria, even if it could be accomplished, would likely demoralize its far-flung satellites but would not wipe it out. Nor would the loss of money and security that comes with having a home base kill it off. The three recent terror plots were not expensive. And the Internet provides a virtual space in which ISIS operates fluidly.

Consider this: so far in 2015, more than twice as many U.S. residents have been linked to Islamic extremist plots as in either of the previous two years, according to the Anti-Defamation League (ADL). The total, 69, is small compared with the thousands of Europeans who



SOURCES: NEWS REPORTS; DOD





Obama, left, and Putin, right, confer during the G-20 summit in Ankara on Nov. 15

have been lured to the caliphate. But it's a clear spike.

And ISIS has emerged as the key recruiter. In past years, extremists were associated with a variety of groups, including the Somali organization al-Shabab and various al-Qaeda franchises. So far this year, all but two of the suspects were tied to ISIS. They discussed a total of 15 plots, compared with only one domestic plot uncovered in 2014, according to the ADL.

ISIS's command of the online battlefield rests on its use of social media to attract and indoctrinate. This is "the dark side of globalization," said anthropologist Scott Atran, who testified on ISIS recruitment at the U.N. Security Council. Young people—especially immigrants and children of immigrants—identify less with their physical communities and nations and rely more on their online connections, which can be penetrated by ISIS propagandists. Atran reports that some recruiters spend hundreds of hours in virtual communication with a single target, steadily tailoring the movement's message to fit the individual.

For the traumatized children of war-torn regions, the message might be: join us and kill your enemies before they kill you. For the disaffected loner in a European or American suburb, it might be the fellowship of a movement of strong Muslims. For a history-minded dreamer,

it might be the promise of restored Islamic greatness.

It works. Young people from an estimated 90 nations have been drawn to ISIS. (The terrorist group itself is far more international than the coalition fighting it.) And as travel to Syria becomes more difficult, a growing number of them have been urged to wage jihad in their homelands. "If you are not able to find an IED or a bullet, then single out the disbelieving American, Frenchman or any of his allies," an ISIS spokesman announced last year. "Smash his head with a rock, or slaughter him with a knife, or run him over with your car."

#### THE SHADOW WAR

THE OBAMA STRATEGY TRIES TO TAKE this complexity into account. As he put it in his dismal press conference, he sought

**What the world  
needs from  
Obama is not  
his chilly  
acceptance but  
a stirring call  
to action**

"a comprehensive strategy using all elements of our power—military, intelligence, economic, development and the strength of our communities." When he announced the strategy during a low-key speech at the recent U.N. General Assembly, he was fully aware "that this would be a long-term campaign."

Comprehensive and long-term: this makes Obama's strategy the antithesis of the "shock and awe" approach to Middle East dysfunction adopted by the previous Administration. And that's no accident. ISIS has its roots in the disastrous nonchalance with which the Bush Administration toppled Iraq's existing order with no plan for a government to take its place. Much of Obama's foreign policy can be summed up as: watch George W. Bush and do the opposite.

This reactive mind-set leads him to a pragmatic resignation that is different from Bush's impulsive idealism—but perhaps just as insufficient in its own way. Humans have both hearts and minds, and both must find expression. Obama's primary determination is to avoid the fly trap that is Syria. He recognizes the very real logistical problem of inserting an allied army into a country surrounded by problematic neighbors, and also the political problem of creating a stable order post-ISIS in the midst of Assad's train wreck.

The logistics, he acknowledges, are probably solvable. U.S. forces could "march into Mosul or Raqqa or Ramadi and temporarily clear out" the enemy, Obama allowed. Two successful invasions of the region in the past 25 years are proof of that brag. But what then? Is the U.S. ready to stay forever in Syria, and Iraq, and Libya, Yemen, Mali—the list of terrorist sanctuaries is not shrinking, alas—conducting "a permanent occupation of these countries," as Obama put it?

The answer, as polls of Americans clearly show, is emphatically no. So what is he doing instead? He is eavesdropping on terrorist phone calls, capturing emails and texts, trolling websites: all the sadly indispensable surveillance activities that unsettle civil libertarians. He is plugging special-ops teams into dark locations and firing record numbers of missiles from whispering drones. The muscle of the Obama strategy is all hidden from public view, because it involves sneaking and spying and

# WHY THE WORLD DOESN'T REALLY WANT TO DESTROY ISIS

Rhetoric hasn't matched action for most of the countries with an interest in the war against the terror group

■ ■ ■ ■ ■ Most involved  
■ ■ ■ ■ ■ Least involved

■ ■ ■ ■ ■

## U.S.

Washington began air strikes against ISIS in Iraq in August 2014 and in Syria the next month. But U.S. attempts to train and arm rebels in Syria failed completely. While Washington is putting more special forces troops in the region, President Obama has ruled out ground troops.

■ ■ ■ ■ ■

## Turkey

The Turkish government is much more worried about gains by the PKK, a Kurdish militant group, than it is about ISIS. Most of its military strikes have focused on the Kurds rather than ISIS.

■ ■ ■ ■ ■

## Kurds

The Kurds, who live in areas of Turkey, Syria, Iraq and Iran, have had the most success fighting ISIS on the ground, recently taking the Iraqi town of Sinjar. But the Kurds are more interested in seizing territory for a future Kurdistan than in eradicating ISIS.

■ ■ ■ ■ ■

## France

France has been the most involved European country in the war on ISIS, deploying hundreds of air strikes. But its military capacities remain limited, even with a stepped-up pace following the Paris attacks.

■ ■ ■ ■ ■

## Syria

President Bashar Assad has arguably benefited from the success of ISIS, which has come at the cost of some of the Syrian rebel groups fighting him. By allowing ISIS to gain strength, he makes himself the lesser of two evils, portraying himself as the only bulwark against Islamic terrorism.

■ ■ ■ ■ ■

## Israel

Israel has stayed out of the war against ISIS, which it doesn't see as a threat on the level of Iran, Hizballah or Hamas.

■ ■ ■ ■ ■

## Saudi Arabia

The Sunni country is the birthplace of ISIS's brand of extremist Islam, and while Saudi Arabia has engaged in limited air strikes against ISIS in Syria, they've been far more focused on their struggle with Iran and the civil war in Yemen.

■ ■ ■ ■ ■

## Iraq

The Iraqi army was initially routed by ISIS, and though it has rallied somewhat with the help of Iranian militias, there's no evidence that the Shi'ite majority in Iraq has the will to roust ISIS out of Sunni areas of the country.

■ ■ ■ ■ ■

## Yemen

The country has been torn apart by a brutal civil war, and ISIS has only added to the unrest, targeting both the Shi'ite Houthi rebels who seized power in 2014 and Shi'ite mosques in neighboring Saudi Arabia, which is fighting against the Houthis.

■ ■ ■ ■ ■

## Russia

Russia has only recently entered the war in Syria, and its main interest has been to prop up its ally Assad. Most Russian strikes have been against Syrian rebel groups that are not affiliated with ISIS. But that may change with confirmation that a Russian airliner was brought down by a bomb attack that ISIS claimed.

■ ■ ■ ■ ■

## Iran

Iran is a Shi'ite Muslim country considered an apostate by ISIS, a Sunni Muslim group. Iran has been actively supporting Iraq in its fight against ISIS. But Iran is more interested in battling Saudi Arabia in its regional, sectarian power struggle.





cold-blooded executions, not the sort of thing that Obama likes to talk about—or that Americans like to hear.

But that doesn't mean this shadow war is without effect. During the same fortnight that ISIS turned so bloody, U.S. drone strikes apparently took out the head of the ISIS franchise in Libya and may have eliminated the notorious executioner known as Jihadi John. Meanwhile, U.S. commando forces are raiding across a broad range of the Middle East, according to sources, as silent as butterflies and as deadly as cobras.

The Obama strategy also involves chasing terrorist money, although this is a part of the effort ripe for “intensification,” to borrow his own term. It was heartening that U.S. pilots destroyed more than 100 oil-tank trucks in eastern Syria recently; strikes aimed at disabling ISIS oil refineries were also welcome. ISIS takes in an estimated \$40 million a month from oil sales. But why this took more than a year is the sort of question that makes Obama's strategy so uninspiring.

And the topic of oil points to the thornier question of Saudi support for radical Islam. The petro kingdom has for decades funded the spread of the Wahhabi strain of Islam that underlies violent Sunni jihad, whether al-Qaeda's brand—Osama bin Laden was a Saudi national—or ISIS. Oil-addicted U.S. Presidents have long chosen to ignore this issue while looking to the Saudis to counterbalance Shi'ite Iran's own brand of Islamic revolution. But the money must be stopped.

Obama's risky decision to thaw relations with Iran marks a turn in U.S. policy away from the Saudis, one aided in part by growing American energy independence. Having waded halfway into a confrontation with this imperfect ally, Obama may need to go all the way, dialing up pressure on the oil sheiks to douse the fire of religious zealotry that they have stoked around the world for years.

There is a law-enforcement piece to the strategy as well; perhaps this is part of what Obama meant by his tepid reference to “the strength of our communities.” One of the frustrations of fighting terrorists is that arithmetic is on their side. As the Irish Republican Army said after a 1984 bombing that almost took the life of Margaret Thatcher: “We only have to be lucky once—you will have to be lucky always.”



*A man wrapped in a thermal blanket walks near Paris' Bataclan concert hall on Nov. 13*

But the shocking laxness of police work in Belgium, so evident in the glare of the Paris assaults, shows that there is plenty of room to intensify in this realm. Molenbeek is a small Brussels suburb across a canal from more glamorous parts of Europe's capital. In recent years, it has been allowed to become home to the Continent's most disenfranchised and dangerous citizens.

Attracted by the location—about two hours or less to London, Amsterdam and Paris by train—terrorist plotters in Molenbeek face little of the closed-circuit television and wiretapping surveillance they would meet in more attentive European capitals. From the 2004 Madrid train bombing to the assault on *Charlie Hebdo* magazine to the thwarted attack on a passenger train bound for Paris last summer, the mayhem of Europe typically is linked to Molenbeek. Per capita, more Belgians have taken up arms in the Levant than any other country in Europe—twice the per capita number of France and four times that of the U.K., according to a report released in January by the International Centre for the Study of Radicalisation and Political Violence. An estimated 30 of those battlefield veterans are in Molenbeek right now, the town's mayor, Françoise Schepmans, told journalists.

Belgium's head-in-the-sand response has “been a form of laissez-faire and laxity,” Prime Minister Charles Michel said. “Now we're paying the bill.”

#### **VICTORY AT ALL COSTS**

OBAMA MUST START SELLING HIS strategy with passion and conviction because the next steps will involve some unsavory choices. Along with Putin will come Assad, who appears likely to survive in power despite gassing and barrel-bombing his own people. Obama will need to continue his embrace of Egypt's military government. Meanwhile, Turkey, Jordan and Lebanon need massive support in dealing with millions of Syrian refugees. Given that one sure response to Paris will be a surge of anti-refugee sentiment in Europe and elsewhere, these overtaxed countries on Syria's borders can't be allowed to become miserable incubators of future terrorists.

For some time now, there has been a palpable disillusionment in this enigmatic man, a self-indulgent sorrow that the world cannot afford. He took office genuinely believing that a more “humble” U.S. foreign policy would be greeted around the world with peaceful approbation. His theory that American hubris was like a flame under a boiling pot—

turn the knob to “off” and the bubbling will stop—earned him a premature Nobel Peace Prize, followed by a stern schooling in the realities of power-vacuum politics.

Yes, terror is the new normal. There were 13,463 terror attacks across the globe in 2014, according to the U.S. State Department: 1,122 a month, on average; about 37 per day, or roughly one every 40 minutes. What the world needs from Obama is not his chilly acceptance, however, but a stirring call to action. If he believes in his strategy, and evidently he does, his job is to rally the world behind it. Just as the bad guys are drawn to ISIS by the magnetic pull of a cause worth dying for, so do the good guys need a leader who sets before them a cause worth living for.

“Intensification” ain’t it.

Here is Winston Churchill, speaking to the British people at the darkest moment of their long history, when their defeated army was facing destruction and their arsenals were bare. “We have before us an ordeal of the most grievous kind,” he said. “You ask, what is our policy? I can say: it is to wage war, by sea, land and air, with all our might and with all the strength that God can give us; to wage war against a monstrous tyranny never surpassed in the dark, lamentable catalog of human crime. That is our policy.

“You ask, what is our aim? I can answer in one word: it is victory, victory at all costs, victory in spite of all terror, victory, however long and hard the road may be.”

Where the Englishman said *policy* and *aim*, the American President prefers to say *strategy*. And where Churchill could use the prenuclear language of total war, Obama fights by stealth, drone and terabyte. ISIS is not Nazi Germany, but it is a dark force that unsettles freedom and must be defeated despite great difficulty. In such circumstances, real leaders explain themselves; they paint stirring images, which can be done only with utmost sincerity. They connect the dismal events of the moment to an ultimate victory up the road. And this is never more needed than when the road ahead is hard. —REPORTED BY JARED MALSIN/BEIRUT, JAY NEWTON-SMALL/BRUSSELS, NAINA BAJEKAL AND VIVIENNE WALT/PARIS, MASSIMO CALABRESI AND MARK THOMPSON/WASHINGTON

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## FRANCE’S ASSIMILATION CHALLENGE

BY JAY NEWTON-SMALL/PARIS

MOST POLITICAL SCIENTISTS will tell you there are two kinds of nationalism in the world: one is secular, as seen in the U.S., a robust civic pride that might be called patriotism. The second is religious, as seen in Israel or Iran, in which faith and nation are closely intertwined.

But there is a third kind of nationalism that is cultural. That’s France’s specialty. Let’s take the example of schools and what students can wear. In religious nationalist societies, religion dictates: women cover their heads in Iran, and many men wear yarmulkes in Israel. American students get sent home all the time for wearing political symbols, but what you almost never see are students sent home for wearing religious symbols. Freedom of religion is a constitutional right.

Not quite so in France. In the fall of 1989, three adolescent Muslim girls in the Parisian suburb of Creil were excited for their first day of middle school. But all three were sent home because they were wearing headscarves, known as *foulards*, that covered their hair. Thus *l’affaire du foulard* was born.

To understand the vehemence with which the French reacted to these girls, you have to understand the sacred nature of schools in France. Children don’t just learn math and reading at school—they learn how to be French. France is, after all, a country that practiced “assimilation” colonization, where their subjects learned to speak and become French, which the government promoted as the highest culture on earth. To the French, the rights of the few do not trump the standards of the many.

France utterly rejected the notion that being French could include women covering their heads. Enshrined in its laws is the concept of *laïcité*, or secularization. France moved to protect its culture and in the years since has, for the most part, banned Muslim girls from wearing headscarves to school. To level the playing field, it also banned Christian and Jewish symbols, including yarmulkes. Almost every year since, there have been French-Muslim protests to allow girls to wear *foulards* to school. The protests ebbed and flowed with the news: they found new life after the invasion of Iraq and have only grown since.

For immigrants in France, being on the wrong side of the culture war feeds a sense of not belonging—of unsuccessful assimilation—even when those immigrants are second or third generation. It was the sense of being robbed of their “roots” that set the Kouachi brothers down the destructive path toward al-Qaeda that would prove fatal for the employees of *Charlie Hebdo*.

A culture war is no excuse for the actual war that a small number of Muslim French citizens have launched on their own people. But the French method of assimilation by force—ban *foulards*, expel radical imams, speak French not Arabic—may be deepening the problem. “There has to be some nurturing, otherwise people feel like second-class citizens,” says Amel Boubekeur, a researcher on European Islamic issues at Grenoble University. “When you can’t speak to the mainstream, you withdraw from the mainstream.” Culture wars have no winners. □





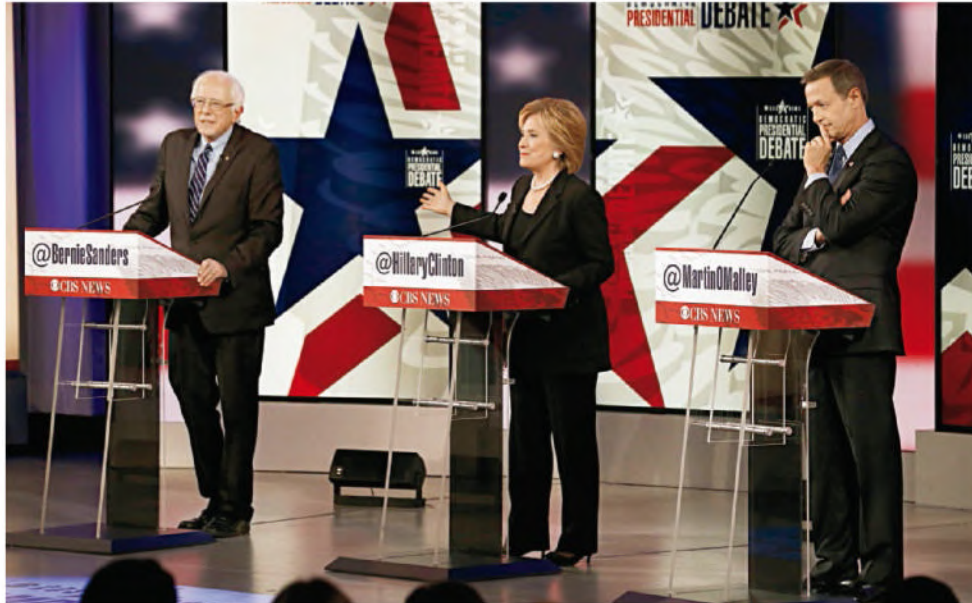
IN THE ARENA

# The 2016 candidates need thoughtful strategies on ISIS. Soon

By Joe Klein

ON THE NIGHT AFTER THE PARIS terrorist rampage, three Democratic presidential hopefuls debated in Iowa and proclaimed that they were very, very concerned about the attacks and the growing evidence that ISIS—or Daesh, as it is called in the region—has metastasized into a true global threat. Very concerned. Senator Bernie Sanders thought that this barbaric challenge to civilization should be “eliminated” ... although, he later allowed, Daesh was not as great a threat as global warming, which—hold on, here—causes terrorism. You know, droughts and floods set people in motion and ... well, never mind.

Sanders’ lack of proportion on this issue—and yes, climate change is a problem, but not the immediate threat to our security that Islamic terrorism is—was, sadly, typical of what passed for post-Paris political discourse among Democrats and Republicans alike. Both parties were handcuffed by less-than-relevant impulses inflicted on them by their extremes. For Democrats, it was the solipsistic insistence on political correctness, which makes it near impossible for liberals to face, head on, by name, the essential problem: the rise of Islamic radicalism. For Republicans, it was the half-crazed nativism of the far right. Their candidates quickly worked themselves into a demagogic lather about whether or not we should be accepting Syrian refugees, a subsidiary question at best, which crowded the real issue—what to do about Daesh—out of the debate. Senator Lindsey Graham, the presidential candidate who has been trying hardest to think through a military response to the problem (but is currently polling below the waterline), said his colleagues were “taking the coward’s way out,” through “red-hot, red-herring politics.”



As Democratic contenders Sanders, Clinton and Martin O’Malley illustrated in Iowa’s debate, the candidates so far have few specifics on plans to combat ISIS

**OF THE DEMOCRATS,** Hillary Clinton came closest to describing what the crisis is and who the enemies are, but she was rendered incoherent by politically correct subterfuge. She wouldn’t say the words *Islamic radicalism* but proposed instead that our foe is “jihadism.” Jihad is, of course, an Islamic principle associated with religiously inspired aggression. There are no Eskimo jihadis.

Why is it so important to call Islamic radicalism by its proper name? Because it’s not just a word game. There is a crisis within Islam, an ideological struggle caused by the rise of Wahhabi-style fundamentalism over the past century. If we acknowledge the true nature of this battle, it becomes easier for us to identify our friends and enemies, especially the latter. Our enemies are those who have funded and promulgated Wahhabi-style Islam through radical madrasahs in the Islamic world. It starts with Saudi Arabia, whose tottering monarchy made a devil’s bargain with local Wahhabi clerics decades ago. The Saudis seem far more concerned with Shi’ite Iran than with the Sunni extremists of Daesh. In recent weeks, they and their Gulf allies have turned their attention away from Daesh and focused on the Shi’ite rebels in Yemen, who represent a far less potent threat to global

stability. And yet neither Saudi Arabia nor its radical, proselytizing strand of Islam was mentioned by the Democrats in the Iowa debate.

But then nothing much was—other than a general belief that America should lead the fight against ISIS in consultation with our allies within and outside the region. Which is what we have been doing, to some effect, but not enough.

The big question—unasked and unanswered by the Democrats—is whether the recent evidence of global reach by ISIS requires a change in U.S./NATO strategy. It is possible that some of France’s European neighbors are, finally, ready to take more robust military action. An alliance with Russia is no longer unthinkable. The central issue in the weeks to come will be, Can we build a military coalition—like the supple one built by George H.W. Bush in the Gulf War—to take on the limited mission of destroying Daesh’s safe havens without occupying them?

It is a vexing, toxic question given our recent history of military failure and carelessness in the region. Few politicians in either party are willing to address it directly. The two leading Republican candidates—Dr. Ben Carson and Donald Trump—have been

JIM YOUNG—REUTERS

laughable in their attempts. Of the rest, Hillary Clinton and Jeb Bush seem to understand the complexity and cross-currents of the situation, although they have yet to produce coherent plans. Graham, and his call for 10,000 more troops on the ground, seemed quixotic at best—before Paris. His credibility remains limited by his proximity to Senator John McCain, who has favored intervention—just about everywhere.

But Graham understands some basic pieces of the puzzle: Syria's President, Bashar Assad, can't go, for the moment. The immediate enemy is Daesh. "ISIS is Germany and Assad Japan," he says, using a World War II reference. Graham also understands that Egypt and Jordan are the two Sunni armies most likely to join the fight. The problem, as always, is what do we do after the Daesh safe havens are captured? Graham uses the rhetoric of the last Iraq war: "After we clear, we hold and build." For how long? The very words strike fear among those of us who remember what happened last time around. But at least Graham is trying to think this through. Other Republicans, like Ted Cruz, are using the crisis to make a cheesy political appeal to evangelicals: only Christian refugees should be accepted from Syria.

As for the Democrats, one wonders how Sanders and the civil-liberties left now feel about drone strikes and the aggressive collection of terrorism-related data.

**OBVIOUSLY**, there are no simple answers to Islamic terrorism. There aren't even any difficult answers. It is an unsolved puzzle, a massive conundrum. The use of military force has been counterproductive, but the absence of a forceful response dooms us to a potential loss of fundamental freedoms, a life lived without heavy-metal concerts and soccer matches and trips to the mall. President Obama's sad response to Paris—that nothing more can be done than what he is doing—was deflating. Perhaps there are plans afoot that he cannot share. But it seems clear there are few people running for President in 2016 who are even asking the right questions, much less providing possible answers to the most threatening problem of our age. □

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## ENCRYPTION: CAN SILICON VALLEY HELP?

BY HALEY SWEETLAND EDWARDS

THE PARIS ATTACKS HAVE revived a difficult debate, sidelined in recent years, about how to balance the right to privacy with the need to prevent the next terrorist attack. It is already clear that the nature of the conspiracy behind the Paris attacks may have shifted alliances on both sides.

This time the issue is not new legal powers to collect phone records or amass troves of metadata but how to penetrate powerful new encryption technologies embedded in many consumer products, including Facebook's WhatsApp and Apple's iMessage. While there is no clear evidence yet that the attackers in Paris used encrypted apps to communicate, national-security officials say they're ubiquitous.

So-called end-to-end encryption scrambles the content of messages as it passes through the Internet, from one end device to the other, and therefore keeps hackers and criminals from snooping on the public. But it also hobbles security officials' ability to vacuum up and monitor suspected terrorists' conversations. If government officials issued a court order to Facebook to turn over its customers' WhatsApp messages, for example, all they would get is scrambled code. Without access to the devices sending or receiving the messages, the content cannot be read.

Other technologies have also bedeviled some intelligence agencies. Just three days before the attack, Belgium's Minister of Security and Home Affairs, Jan Jambon, warned of the difficulty in monitoring the messaging system in PlayStation 4, which does not use end-to-end encryption to protect voice calls between players. "There are a lot

of technological capabilities that are available right now that make it exceptionally difficult, both technically as well as legally, for intelligence and security services," said CIA Director John Brennan after the attacks.

Michael Morell, President Obama's former deputy CIA director, also worried that terrorists are using encryptions "that we can't break." He said, "I think we're now going to have another debate about that. It's going to be defined by what happened in Paris."

Both Republican and Democratic lawmakers want to pass new legislation compelling tech companies to engineer what's known as a back door into their encrypted devices and apps. FBI Director James Comey has pushed the Obama Administration to back such a law, but with Silicon Valley broadly opposed, he has met with little success so far.

A study by both the White House's counterterrorism adviser and its cybersecurity office sided with private-sector technologists, who warn that back doors make Americans' confidential data more vulnerable to criminals and hackers representing foreign governments and encourage terrorists to use their own encryption tools.

Attorney General Loretta Lynch pointed to the tricky balance between privacy and "the need to do everything we can to protect the American people." She said, "We're in discussions with industry looking for ways in which they can lawfully provide us information while still preserving privacy." The hope, perhaps, is that Silicon Valley, having engineered a problem, might just engineer a solution too. □



## WHAT COMES NEXT, AND HOW DO WE HANDLE IT?

### *ISIS will strike America*

By Michael Morell

I was an intelligence officer for 33 years. When intelligence officers write a brief, they start with the bottom line. Here it is: ISIS poses a major threat to the U.S. and to U.S. interests abroad, and that threat is growing every day.

The nature and significance of the threat flow from the fact that ISIS is—all at the same time—a terrorist group, a state and a revolutionary political movement. We have never faced an adversary like it.

As a terrorist group, ISIS poses a threat to the homeland. That threat is largely indirect and involves ISIS's ability to radicalize young Americans to conduct attacks here. The FBI has over 900 open investigations into homegrown extremists, the vast majority radicalized by ISIS, and a large number of those investigations relate to individuals who may be plotting here.

While the sophistication of homegrown attacks is likely to be fairly low, the potential exists for the quantity of these attacks to be large. The number of ISIS followers dwarfs the number of followers that al-Qaeda ever had. Over time, the indirect threat, if not significantly degraded, will become a direct one—that is, ISIS will have the ability to plan and direct attacks on the homeland from the group's safe havens in Iraq and Syria, just like it did in Paris.

Such attacks are deeply concerning because they carry the potential to be much more sophisticated and complex—and therefore more dangerous—than homegrown attacks, again, just like in Paris recently, or London in 2005 or even 9/11. And in news that should get everyone's attention, ISIS has shown an interest in weapons of mass destruction.

The attacks in Paris were the first manifestation of an effort by ISIS to put together an attack capability in Europe—an effort it began less than a year ago. The head of the U.K.'s domestic security agency recently warned that ISIS is now planning mass-casualty attacks in Britain. His concerns are well-founded. We will not be far behind.

As a state, ISIS poses a threat to regional stability—a threat to the very territorial integrity of the current nation-states, a threat to inflame the entire region in sectarian war. All this in a part of the world that still provides almost a third of the world's oil supply; a region that is home to one of America's closest allies, Israel; and a region that is home to a set of close American allies—the Gulf Arab states—that are willing to resist Iran's push for regional hegemony.

As a revolutionary political movement, ISIS is gaining affiliates among extremist groups around the world. They are signing up for what ISIS desires as its objective: a global caliphate where day-to-day life is governed by extreme religious views. In the mind of ISIS, its global caliphate would extend to the U.S.

When they join ISIS, these affiliates evolve from focusing on local issues to focusing on establishing an extension of the caliphate. And their targets evolve from local to international ones. This is the story of the bombing of the Russian airline by an ISIS group in the Egyptian Sinai.

ISIS has gained affiliates faster than al-Qaeda ever did. From none a year ago, there are now militant groups that have sworn allegiance to ISIS in nearly 20 countries. They have conducted attacks that have killed Americans, and they carry the potential to grab large amounts of territory. Libya, for instance, is a place where this could happen in the near term.

An intelligence officer has many jobs. One is to describe for a President the threats that we face as a nation. Another is to look a President in the eye when his or her policies are not working and say so. Mr. President, the downing of the Russian airliner and the attacks in Paris make it crystal clear that our ISIS strategy is not working.

*Morell is the former deputy director of the CIA and has twice served as acting director. He is the author of The Great War of Our Time.*



### *Terror's lineage*

By Kamel Daoud

In every myth, the monster has a father and a mother. And so it is with ISIS: its father is George W. Bush's America, and its mother is Saudi Arabia. The former provided it with pretext in the disastrous invasion of Iraq. This invasion was seen as a rape of the Arab world. It was based on a lie—the false link between Sept. 11 and Saddam Hussein—and it destroyed the West's moral superiority. As for ISIS's mother, this strange theocracy is simultaneously allied with the West through the Saudi royal family and opposed to the West by an ideology that is the product of a vicious clergy. Saudi Arabia remains the ideological factory for jihadism with an industry of theologians it supports financially. They propagate their vision through books and TV channels throughout the Arab world and far beyond. Saudi Arabia is both a victim and a source of terrorist ideas.

*Daoud edits the Algerian daily Le Quotidien d'Oran and is the author of the novel The Meursault Investigation*



Messages of support and defiance line a Paris street near the Bataclan, where at least 89 people died

## Conquering the enemies of liberty

By Marine Le Pen

For the sixth time in a year, Islamic terrorism has struck France—now more viciously than ever. There has been an outpouring of support for the French people from all corners of the world. Everywhere it is sung, “La Marseillaise” embodies our universal determination, our unwillingness to yield to the barbarism of Islamic fundamentalism.

And yet the enemies of liberty have decided to attack France with such barbarity because we have forgotten that liberty must be organized, that it must be defended, that it is a kind of power that must be nurtured. To forget that truth weakens freedom. Too often, we have confused hospitality with blindness.

We must reinvest in our police forces, our border security, our military. We must reclaim our national borders permanently and rescind French citizenship to dual-national jihadists; they do not deserve to be considered French. We must close radical mosques, which are a site of hate. We must stop welcoming thousands of migrants and regain our national sovereignty.

A strong France, faithful to itself and master of its destiny, is indispensable to world peace. Let us stand together. It is the only way to defeat, once and for all, fundamentalism and the enemies of liberty.

*Le Pen is the leader of France's far-right party National Front*

## Refugees are not the enemy

By Madeleine Albright

I am deeply disturbed by the calls to shut the U.S.'s doors to properly vetted Syrian refugees fleeing terrorism and persecution in their native land. These calls are motivated by fear, not facts, and they fly in the face of our country's proud tradition of admitting refugees from every corner of the globe. We have always been a generous nation, and we have in place a rigorous process for refugee resettlement that balances generosity with security. It works, and it should not be stopped or paused.

This issue is personal: 67 years ago I arrived in the U.S. to begin a new life in exile from Czechoslovakia. I'll always feel an immense gratitude to this country, one shared by the millions of other refugees who have arrived on our shores—including Eastern European Jews, Hungarians, Vietnamese, Somalis, Cubans and Bosnian Muslims.

Today Syria is being destroyed by despotic leaders and terrorists. The international community has failed the Syrian people, who do not want to leave their country but have no choice. The U.S. must do its part to alleviate the crisis by resettling some refugees. If we do otherwise, we will squander our moral authority and hurt our international credibility.

Our enemies want to divide the world between Muslims and non-Muslims, between the defenders and attackers of Islam. By making Syrian refugees the enemy, we are playing into their hands. Instead, we need to clarify that the real choice is between those who think it is O.K. to murder innocent people and those who think it is wrong. By showing that we value every human life, we can make clear to the world where we stand.

*Albright is a former U.S. Secretary of State*

## An 8-step plan to defeat ISIS

By Admiral James Stavridis

1. Establish a robust and dependable command-and-control backbone, by at least a three-star general officer.
2. Increase intelligence sharing across the coalition. At the moment, the best intelligence is “owned” by the U.S. and shared via the so-called Five Eyes agreement to traditional partners like the U.K. Intelligence should be more broadly shared throughout the coalition, especially with technologically capable nations like France, Belgium, Denmark and the Nordics.
3. Incorporate a strong cyber element into the plan. ISIS has shown increasing facility in the cyberworld in three ways: recruitment on the web; criminal activity for profit; and operational command and control.
4. Create a coalition Special Operations task force to be the forward boots on the ground.
5. Integrate with other government agencies. The CIA should lead an international effort with a senior commander.
6. Set up between 15,000 and 20,000 U.S. and coalition troops to conduct two training missions, one with the Kurds in Erbil and the other with the Iraqi security forces in Baghdad, headed by a three-star commander from the U.S. and a two-star commander from a contributor.
7. Increase the air campaign to broaden its base of targets and increase its tempo.
8. Bring boots on the ground in the urban centers, including two key centers: Mosul and Raqqa.

*Stavridis is a former NATO commander and a retired four-star Navy Admiral, and the author of The Accidental Admiral*



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DEVELOPED BY DAN BARASCH  
AND JAMES RAMSEY

“It’s not like any park you’ve ever seen before,” says Dan Barasch of the Lowline, an abandoned trolley terminal in New York City’s Lower East Side that he and architect James Ramsey are trying to turn into an acre of lush green space, replete with flowering plants and areas to relax in the sun. The key: a “remote skylight” dish system that captures sunlight from surrounding rooftops and funnels it underground via fiber-optic cable; once there, it’s beamed out via reflective dome, enabling plants to grow. To prove the technology works, Barasch and Ramsey opened the Lowline Lab (above); it’s a prototype version of the final park, which is still several approvals—and \$70 million in funding—away from completion. But Barasch, who attracted more than 3,300 backers on Kickstarter, is undeterred. Even forgotten places, he says, can still be used “for public good.”



The final version of the Lowline could open as soon as 2020, says Barasch



WHAT'S  
NEXT FOR  
FASHION

## CONNECTED CLOTHES



Once the Internet is everywhere, 'we will move beyond traditional screens. Our [tech] interactions will feel much more natural, like tapping your shirt collar to ping a friend that you're close by, or pressing a pad on your jacket sleeve to translate a conversation.'

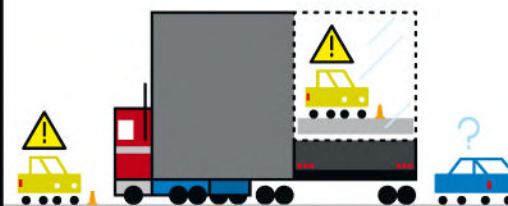
**TOM UGLOW,**  
CREATIVE DIRECTOR AT  
GOOGLE'S CREATIVE LAB  
IN SYDNEY



## A DESKTOP DNA LAB

> **JUNO** / DEVELOPED BY FLUIDIGM

It can take a full day to "amplify" DNA, the technical term for making millions of copies of one strain so it can be compared with many others. Juno cuts that process to just three hours, freeing scientists to concentrate on actual analysis—a shift that makes it easier to match bone-marrow donors, find cures for genetic diseases and more. The key is Fluidigm's proprietary microchip, which can amplify samples that are 1,000 times smaller than a drop of water. And the sleek, Yves Béhar-designed aesthetic doesn't hurt, either. "We see a lot of possibilities for clinical labs and hospitals," says Marc Unger, a senior vice president at Fluidigm, of the \$120,000 machine, which is now being used at academic and research labs. "We really want to help."



## TRANSPARENT TRUCKS

> **SAFETY TRUCK** / DEVELOPED BY SAMSUNG AND LEO BURNETT

Every year, thousands of people get hurt or die in traffic accidents, in part because their visibility gets blocked by a lumbering vehicle. This is especially true in Argentina, known for its winding, narrow roads. There, however, Samsung and ad agency Leo Burnett have partnered on a creative solution: a system that relays video footage from the front of a truck to four screens on its back, giving drivers a clear view of what's ahead. During its initial test, the Safety Truck covered some 620 miles (1,000 km) over three days without incident. Now Samsung is refining the technology and working with Argentine officials to roll it out more broadly. "We believe this will change the history of road safety," says Sang Jik Lee, president of Samsung Electronics Argentina.

LOWLINE: CAMERON NELSON; JUNO: MARK SEFF; ILLUSTRATIONS BY MARTIN GEE FOR TIME





## THE 25 BEST INVENTIONS OF 2015 FOR THE FUTURE

Doppler Labs' earbuds raised \$635,000 on Kickstarter, more than double the company's goal



### BIONIC EARS

> **DOPPLER LABS HERE ACTIVE LISTENING EARBUDS**  
\$249 / WAITLIST OPEN AT [HEREPLUS.ME](http://HEREPLUS.ME)

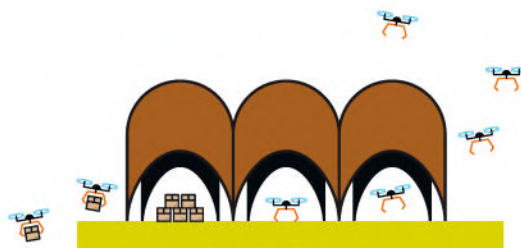
If you're stuck somewhere with unbearable noise, you essentially have two options: plug your ears, or leave. But what if you could isolate the most grating sound and mute it? Or just lower the volume, much as you would on a TV? That's the promise of the Here Active Listening system, a groundbreaking set of earbuds from New York-based Doppler Labs. Unlike hearing aids, which amplify or decrease all noises at once, Here's processor syncs with a smartphone app, so users can handpick which frequencies they want to filter. That means you could stand on a subway platform and have a normal conversation as a train screeches by, or even tune out a crying baby on a plane. "It's augmented audio reality," says Doppler Labs CEO Noah Kraft, who initially developed Here for musicians and concertgoers before pivoting to a general audience. The first earbuds will ship in December.



### THE MEANEST, GREENEST DRIVING MACHINE

> **TESLA MODEL X** / est. \$132,000  
AVAILABLE 2016

Tesla's Model X, unveiled in September, marks a leap toward a reality in which electric cars aren't simply exotic, but just as useful as their competition. The world's first luxury electric SUV can go 250 miles on a charge, Tesla says, and haul seven passengers. It features futuristic back doors that open like the wings of a bird (up, not out). And the Model X is a blast to drive: it can hit 60 m.p.h. from a standstill in 3.2 seconds, and its battery pack gives it a low center of gravity, enabling sports-car-like handling. (That's rare for any SUV, let alone one that runs on clean power.) For Tesla, more than one model is at stake. As CEO Elon Musk put it during the Model X unveiling: people need to know "that any kind of car can go electric."



### AN AIRPORT FOR DRONES

> **DRONE PORT** / DEVELOPED BY  
AFROTECH AND FOSTER + PARTNERS



As Amazon, Google and others ramp up their drone-delivery tests, one question looms large: How will their home base function? For hints, the tech titans may well look to Rwanda, where workers will soon break ground on three "drone ports," designed to make it easier to transport food, medical supplies, electronics, spare parts and other goods through the hilly countryside, where road travel is difficult. The Rwanda project "is a relatively modest beginning," says Norman Foster, chairman of architecture firm Foster + Partners, which is leading the first phase of construction (scheduled to be completed in 2020). But, he adds, "it could be a catalyst," helping to solve an array of pressing health issues and creating a model for other countries looking to regulate commercial drone use.



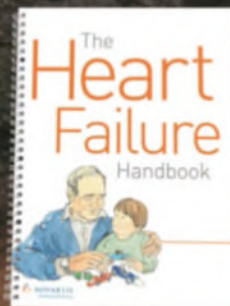
MODEL X: TESLA; ILLUSTRATION BY MARTIN GEE FOR TIME

**WITH  
HEART FAILURE,  
DANGER IS ALWAYS  
ON THE RISE.**

**Fortunately, knowledge can help you do something about it.**

Heart Failure (HF) means your heart isn't pumping the way it should and it worsens over time. About 50% of people die within 5 years of getting diagnosed. It's important to know how to recognize HF symptoms like difficulty breathing and swelling.

Talk to your doctor about managing HF and your treatment options. You can also sign up for a free "Heart Failure Handbook" to learn more. Call 1-844-PUMP4HF or go to [KeepitPumping.com](http://KeepitPumping.com) today.



**Novartis Pharmaceuticals Corporation**  
East Hanover, New Jersey 07936-1080

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9/15

HFS-1321576



FOR

THE

THE BEST INVENTIONS SOLVING EVERYDAY PROBLEMS

The Pencil battery lasts for up to 12 hours before needing to recharge

## A VIRTUAL BRUSH AND CANVAS

> **APPLE PENCIL AND IPAD PRO** / \$99 AND \$799+, RESPECTIVELY / AVAILABLE AT [APPLE.COM](http://APPLE.COM)

In the 450 years or so since its invention, the pencil has become so ubiquitous, it's easy to forget how remarkable a technology it is. It can write at any angle. Shades get darker depending on how hard you press. Marks can be erased. Reproducing this functionality digitally has vexed computer engineers for years, which is what makes Apple's latest effort so impressive. The Pencil allows users to draw, paint or write on a screen, just as they would a sheet of paper. And it works in tandem with the iPad Pro, a tablet faster than roughly 80% of laptops sold in the past year, so there's no perceptible delay. That combination has already sparked chatter about new ways to create art, animations, blueprints and more. "You can rest your hand anywhere and [the iPad Pro screen] totally ignores it and it just reads the Pencil," wrote Don Shank, an art director at Pixar, after testing the products in September. "It's pretty amazing."

The iPad Pro offers apps that allow users to create content—from text to painting and drawing—as well as consume it



# Nuts.

49 PISTACHIOS

- 160 calories
- 6 grams protein
- 3 grams fiber



# Crazy.

15 POTATO CHIPS

- 160 calories
- 2 grams protein
- 1 gram fiber

Wrap your noggin around this: a heaping helping of pistachios has the same calories as a handful of potato chips. Pistachios are naturally cholesterol and trans fat free, a good source of protein and fiber, and heart-friendly. A recent Harvard study also suggests that eating nuts seven times a week or more is as healthy as it is smart. Which makes pistachios the sane choice when it comes to snacks.



Scientific evidence suggests but does not prove that eating 1.5 ounces per day of most nuts, such as pistachios, as part of a diet low in saturated fat and cholesterol may reduce the risk of heart disease. See nutrition information for fat content. © 2015 Wonderful Pistachios & Almonds LLC. All Rights Reserved. WONDERFUL, GET CRACKIN', the Package Design and accompanying logos are registered trademarks of Wonderful Pistachios & Almonds LLC or its affiliates. WP14278

**Get Crackin'**





THE 25 BEST INVENTIONS OF 2015  
FOR LIFE

To “tie” the shoe, wearers yank on a strap, which zips around the ankle as they pull ...

## SHOES YOU CAN ‘TIE’ WITH ONE HAND

> **NIKE FLYEASE 8**  
\$130 / AVAILABLE AT [NIKE.COM](http://NIKE.COM)

... then stick the strap to the side of the shoe, using Velcro

In 2012, Matthew Walzer, a then high school junior with cerebral palsy, sent a note to Nike: "My dream is to go to the college of my choice," he wrote, "without having to worry about someone coming to tie my shoes every day." Sensing an opportunity to create a new footwear category—both for casual consumers who want a simpler way to tie sneakers and for people like Walzer, who need one—Nike dispatched a design team. This year, they unveiled their solution: the Flyease 8, a LeBron James–branded basketball shoe with a one-handed fastening mechanism that drew inspiration from "opening and closing a door," says Tobie Hatfield, the shoe's head designer. (See *left*.) There are still kinks to work out; pulling the strap too hard or too fast, for example, may cause the zipper to break. But Walzer, now a sophomore at Florida Gulf Coast University, has said the shoes have given him a great "sense of independence and accomplishment."



## PERIOD-PROOF UNDERWEAR

> **THINX** / \$24+ PER PAIR  
AVAILABLE AT THINX.COM

For decades, women trying to avoid leaks or stains during menstruation have mainly had to rely on disposable pads, tampons and panty liners, which can be bulky and expensive. "But can't underwear do the same thing, better?" wondered Miki and Radha Agrawal. That's the idea behind Thinx, a line of thongs and panties that the twin sisters—alongside co-founder Antonia Dunbar and a team of manufacturers in Sri Lanka—have engineered to (mostly) replace traditional products. Each pair is washable, reusable and equipped with four layers of moisture-wicking, antimicrobial fabric. On heavier days, however, some women may need extra protection. "We always say, Know your flow," says Miki.



WHAT'S  
NEXT FOR  
EDUCATION

## VIRTUAL TUTORS



In an age of high-quality, low-cost interactive software, it's not optimal for a teacher to deliver the same information to 40 kids at once. Soon, students could learn basic information on their own from a tablet or computer, then interact with teachers one-on-one or one-on-two.'

**MICHAEL OSBORNE**, WHO TEACHES MACHINE LEARNING AT THE UNIVERSITY OF OXFORD



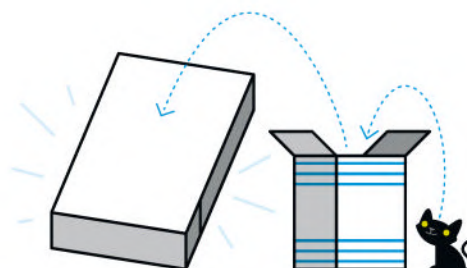
ILLUSTRATIONS BY MARTIN GEE FOR TIME



## THE NEXT-GEN BABY MONITOR

> **SPROUTLING** / \$299  
AVAILABLE FOR PREORDER AT SPROUTLING.COM

"Is my baby O.K.?" That's the question Sproutling aims to answer—in real time—with its first product. Once in place, the Fitbit-like device can track an infant's heart rate, body temperature, position and more, and notify parents, via mobile app, if there's cause for alarm. (Though regular check-ins are still encouraged.) Once it learns a baby's habits, Sproutling can also offer helpful predictions, like when he or she will wake up from a nap. "We want to get more understanding of how children behave as a whole," says CEO Chris Bruce, a father of two. "That's the holy grail."



## A BED IN A BOX

> **CASPER MATTRESS** / \$500+  
AVAILABLE AT CASPER.COM

Buying a new mattress is a lot like purchasing a used car: stressful, confusing and likely to overwhelm you with options. "We want to cut the clutter," says Philip Krim, CEO of Casper, one of many startups upending the sleep industry, including Leesa and Tuft & Needle. The model is simple: create one mattress style; up the comfort factor (using a mix of foams); set clear prices; and sell it online (cutting costs, so prices remain low). Once the mattress arrives—it's vacuum-packed in a cardboard box—customers get a 100-day trial period during which they can return it for a full refund. But that rarely happens, says Krim. Casper's sales are expected to exceed \$75 million this year, making it a leader among its startup competitors.





THE 25 BEST INVENTIONS OF 2015  
FOR LIFE

## POWER PASTA

> **BANZA CHICKPEA PASTA** /  
\$4+ PER 8-OZ. BOX / AVAILABLE  
AT [EATBANZA.COM](http://EATBANZA.COM)

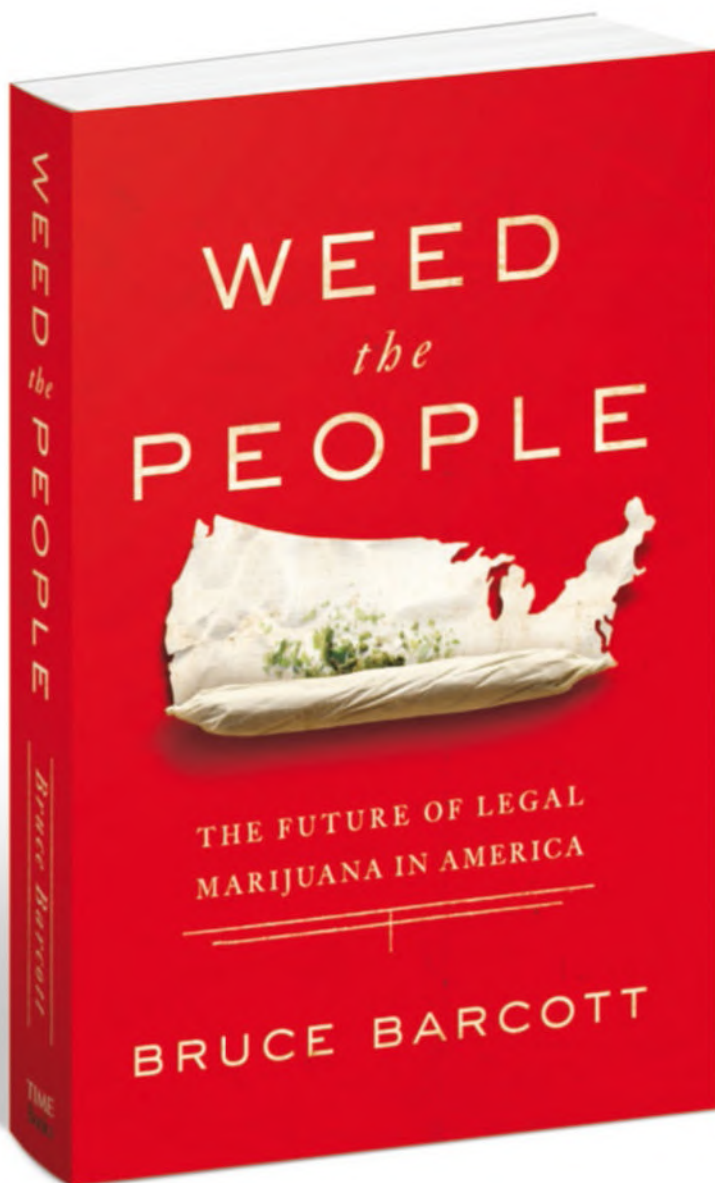
"When people think of pasta, they almost always think, I ate way too much and now I feel like crap," says Brian Rudolph. Not so with his brand, which is made from chickpeas instead of wheat. That simple switch—in a recipe perfected over 10 months of trial and error—has yielded a healthy twist on the al dente dinner. Banza, shorthand for garbanzo pasta, has double the protein and four times the fiber of traditional pasta, and far fewer carbs; it's also

gluten-free. And to those who may question how good it tastes, consider the sales. Banza launched in two U.S. stores last year; now it's in 1,700, including Fairway markets, where it was recently the top-selling pasta of any kind (including wheat). Now Rudolph and his brother Scott plan to reinvent products like pizza and cereal. "People want to eat better," he says. "We see Banza as a true replacement, a more filling version of the food people love."

PHOTOGRAPH BY GREGORY REID FOR TIME

# MARIJUANA GOES MAIN STREET

INSIDE THE BRAVE NEW WORLD OF LEGAL WEED



**“Engaging, informative,  
and very funny.”**

—*Seattle Magazine*

**“In this investigative journey,  
Barcott explores the new  
frontier, from science to sales.”**

—*Entertainment Weekly*

**“A great point-of-entry for  
novices as well as a readable,  
fascinating look at legalization.”**

—*Boulder Weekly*

**“Bruce Barcott wades into  
the tumult of a burgeoning  
industry and emerges with  
a book that’s personal, timely,  
funny, and provocative.”**

—Maria Semple, author of  
*Where’d You Go Bernadette*

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# FOR GOOD

THE BEST INVENTIONS MAKING THE WORLD BETTER



The FDA cleared Eko as a Class II medical device in September, making its creators—all recent UC-Berkeley graduates—the youngest ever to achieve such a feat

## A SUPERIOR STETHOSCOPE

> **EKO CORE** / DEVELOPED BY CONNOR LANDGRAF, JASON BELLET AND TYLER CROUCH

If there is one aspect of medicine that's more art than science, it's the way doctors listen to heartbeats—trusting their fallible ears and memory to detect aberrations over time. Not so with Eko Core. Once the \$199 smart adapter is attached to a stethoscope, it streams heartbeat data to the cloud so physicians can download it to a smartphone. From there, a companion app can analyze the audio and compare it to previous recordings, which may help doctors detect murmurs, heart-valve abnormalities and other conditions that “our ears are not able to,” says Dr. John Chorba, a cardiologist (and mentor to one of the inventors) who's leading an Eko trial at the University of California, San Francisco. If the device works as planned—early signs are positive—it could not only improve overall care but also drastically reduce the need for expensive tests like echocardiograms.



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## A SENSOR THAT SNIFFS OUT GLUTEN

> **6SENSORLABS NIMA** / \$199 / AVAILABLE FOR PREORDER AT [NIMASENSOR.COM](http://NIMASENSOR.COM)

For the millions of Americans with celiac disease or gluten sensitivity, eating out is often anxiety-ridden—any menu item might contain traces of the protein, which is off-limits. The Nima sensor, which starts shipping early next year, would work to put their minds at ease by allowing them to test any kind of food or drink in as little as two minutes. After a sample is dropped into the well of the device, a proprietary antibody (loaded in a disposable cartridge) mines it for traces of gluten. If they exist, a frowning face lights up; if not, a smile appears. “My hope is that people are going to be able to eat socially” without accidentally getting sick, says Shireen Yates, a 6SensorLabs co-founder who is gluten-sensitive. The firm also hopes to apply its technology to detect other food allergens, including peanuts and dairy.



## A PERSONAL POLLUTION DETECTOR

> **TZOO ENVIRONMENTAL TRACKER** / \$139 /  
AVAILABLE FOR PREORDER AT [TZOA.COM](http://TZOA.COM)

In order to avoid potentially harmful pollutants and allergens, it helps to know about the air you're breathing. That's where Tzoo comes in. The stationary device, developed by electrician Kevin R. Hart, uses sensors to evaluate the atmosphere in any given area—measuring factors like temperature, particulate matter (dust, pollen, mold, car exhaust) and UV exposure—and uploads that data to the cloud, so that institutions like Johns Hopkins can conduct air-quality research. The company plans to launch wearable versions in May that offer a similar service, allowing consumers to chart specific walking routes, for example, if they want to avoid pockets of pollen.



## THE OCEAN VACUUM

> **THE OCEAN CLEANUP PROJECT** /  
DEVELOPED BY BOYAN SLAT

There's a glut of plastic trash in the middle of the Pacific Ocean that's bigger than Texas—and growing. But the default removal process of chasing it with nets is both costly and time-consuming. Instead, the Ocean Cleanup Project proposes a 62-mile-long (100 km) floating boom—at an estimated cost of \$15 million—that would use natural currents to trap trash. (Its net drops roughly 10 ft., or 3 m, below the surface, shallow enough for fish to swim around.) If next year's trials succeed, a full cleanup operation would aim to start in 2020; internal estimates suggest it could reduce the trash by 42% over 10 years.

POLLUTION DETECTOR: TZOO; ILLUSTRATION BY MARTIN GEE FOR TIME

# TAKE STUNNING PHOTOGRAPHS



Get an in-depth and highly interactive tutorial on how to take better photographs in this 24-lesson video course taught by an award-winning professional photographer with more than 30 years of experience.

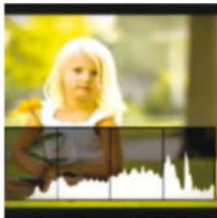


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- 8 Light III—Introduced Light
- 9 Composition I—Seeing Well
- 10 Composition II—Background and Perspective
- 11 Composition III—Framing and Layering
- 12 Let's Go to Work—Landscapes
- 13 Let's Go to Work—Wildlife
- 14 Let's Go to Work—People and Relationships
- 15 Let's Go to Work—From Mundane to Extraordinary
- 16 Let's Go to Work—Special Occasions
- 17 Let's Go to Work—Family Vacations
- 18 Advanced Topics—Research and Preparation
- 19 Advanced Topics—Macro Photography
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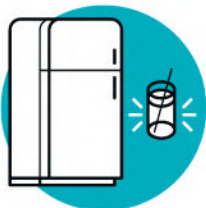
WHAT'S  
NEXT FOR  
HEALTH CARE

## FRIDGE DOCTORS



Once smart homes are the status quo, it's easy to imagine having 'a toilet that can detect when you're not getting enough potassium or vitamin D, then relay that message to your smart fridge so it can make you a glass of nutrient-enriched water.'

**ROB NAIL**, CEO  
OF THE THINK  
TANK SINGULARITY  
UNIVERSITY



## HOUSING THAT WELCOMES THE HOMELESS

> **STAR  
APARTMENTS** /  
DESIGNED BY  
MICHAEL MALTZAN

For decades, housing for the homeless has too often meant transient shelters or warehouse-like abodes. L.A.'s Star Apartments aims to buck that trend by design; it functions more like a minivillage than a single building, says Maltzan of his third collaboration with Skid Row Housing Trust, a local nonprofit. In addition to 102 prefabricated studios, which are ingeniously staggered into four terraced stories, Star Apartments offers a ground-floor medical clinic and, above that, a garden, an outdoor running track and space for classrooms. The goal, says Maltzan, is to make the residents of its 300-sq.-ft. units—who are handpicked by the county department of health services—feel “like they’re part of a dynamic and intimate community,” a strategy that can help people, especially those struggling with homelessness and substance-abuse issues, re-establish stability in their lives.

## BOOKS THAT FILTER WATER

> **THE DRINKABLE BOOK** /  
DEVELOPED BY TERI DANKOVICH



An estimated 663 million people globally do not have access to clean drinking water, in part because filtration is complicated and expensive. The Drinkable Book is neither: thanks to a special treatment—developed with a team of scientists over several years—its pages double as water filters, killing over 99% of harmful bacteria during trials in Bangladesh, Ghana and South Africa. (They also list usage instructions.) Though research is still needed to determine whether the system can filter all contaminants, including viruses, Dankovich is optimistic; she says she is talking to partners who could help fund more testing and, eventually, large-scale production.

APARTMENTS: IMAN BAAN; ILLUSTRATION BY MARTIN GEE FOR TIME



**A park is a gift.**

(Pass it on.)

PHOTO: DARCY KIEFEL

SOMEWHERE, not far from where you live, The Trust for Public Land is protecting the places that make your community special—from neighborhood playgrounds, gardens, and trails to vast wilderness escapes.

Visit [tpl.org](https://www.tpl.org) today and preserve the gift of parks for generations to come.





THE 25 BEST



The MonoRover R2 sells for \$600; it's available at [MonoRover.com](http://MonoRover.com)

FOR **PLAY**

THE BEST INVENTIONS CHANGING HOW WE UNWIND

The PhunkeeDuck  
sells for \$1,500;  
it's available at  
PhunkeeDuck.com



## 'HOVERBOARD' SCOOTERS

> DEVELOPED BY MULTIPLE BRANDS /  
PRICES VARY

Part Segway, part skateboard, the self-balancing scooter—generally known as a hoverboard, even though it doesn't actually hover—is easily the year's most viral product, drawing fans like Justin Bieber, Jimmy Fallon and Kendall Jenner. Once someone hops on, the device uses a pair of electric gyroscopes (one under each pad) to balance automatically, allowing users to speed forward, backward and around by slightly shifting their body weight. That enables all kinds of fun stunts, ranging from hallway races to motorized dance routines. Maxx Yellin, co-founder of PhunkeeDuck, one of more than 20 companies making versions of the device, sees larger implications. "It could evolve as a new form of transportation for cities and colleges," Yellin says (though British authorities recently caused a stir by outlawing their use on public sidewalks and streets). But convenience comes at a cost: prices range from \$350 to \$1,700, depending on the brand and its features.





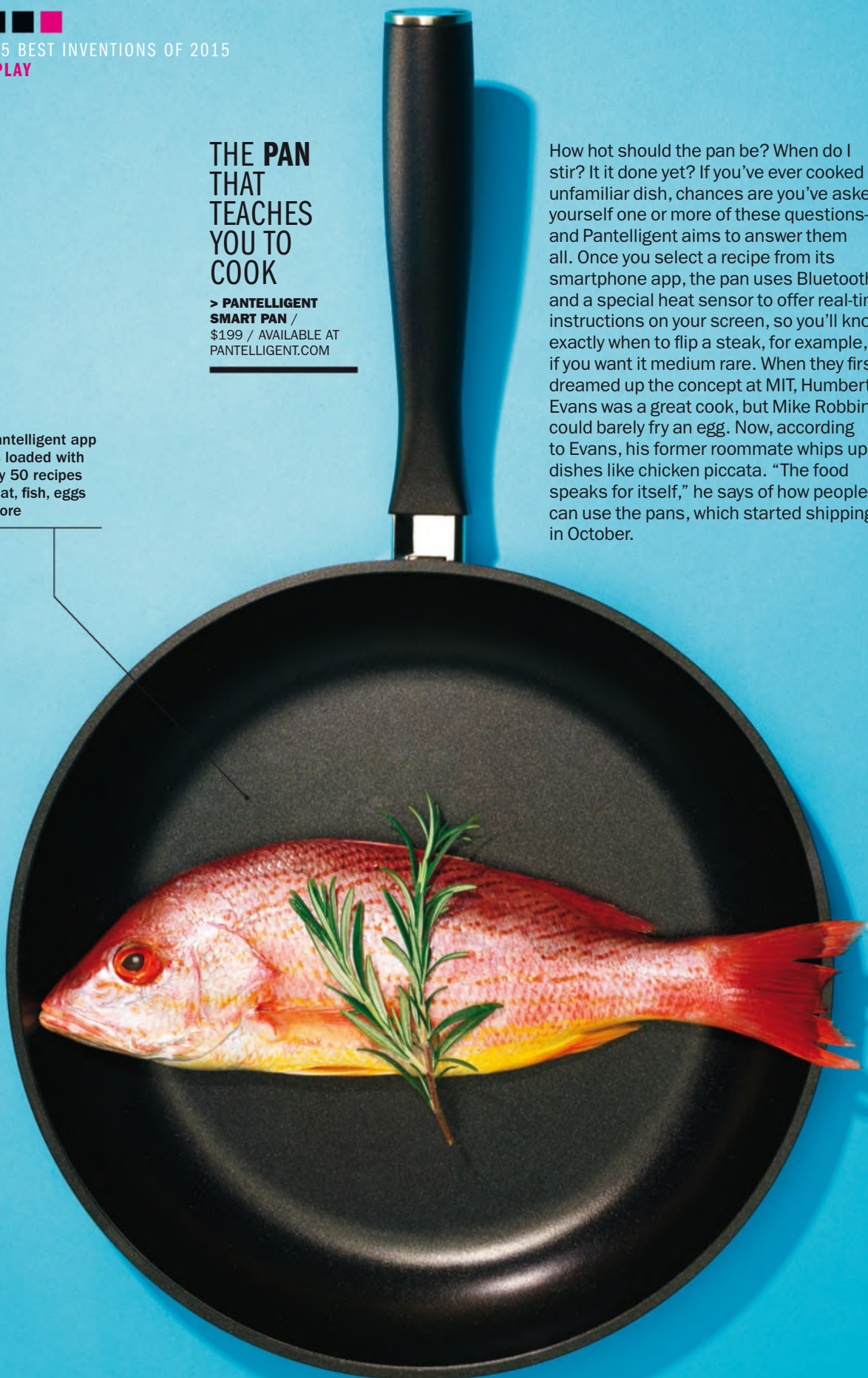
THE 25 BEST INVENTIONS OF 2015  
FOR PLAY

## THE PAN THAT TEACHES YOU TO COOK

> **PANTELLIGENT  
SMART PAN** /  
\$199 / AVAILABLE AT  
PANTELLIGENT.COM

The Pantelligent app  
comes loaded with  
roughly 50 recipes  
for meat, fish, eggs  
and more

How hot should the pan be? When do I stir? It done yet? If you've ever cooked an unfamiliar dish, chances are you've asked yourself one or more of these questions—and Pantelligent aims to answer them all. Once you select a recipe from its smartphone app, the pan uses Bluetooth and a special heat sensor to offer real-time instructions on your screen, so you'll know exactly when to flip a steak, for example, if you want it medium rare. When they first dreamed up the concept at MIT, Humberto Evans was a great cook, but Mike Robbins could barely fry an egg. Now, according to Evans, his former roommate whips up dishes like chicken piccata. "The food speaks for itself," he says of how people can use the pans, which started shipping in October.



PHOTOGRAPH BY GREGORY REID FOR TIME





FOR THE UP-ALL-NIGHTERS  
AND THE UP-ALL-NIGHTERS.



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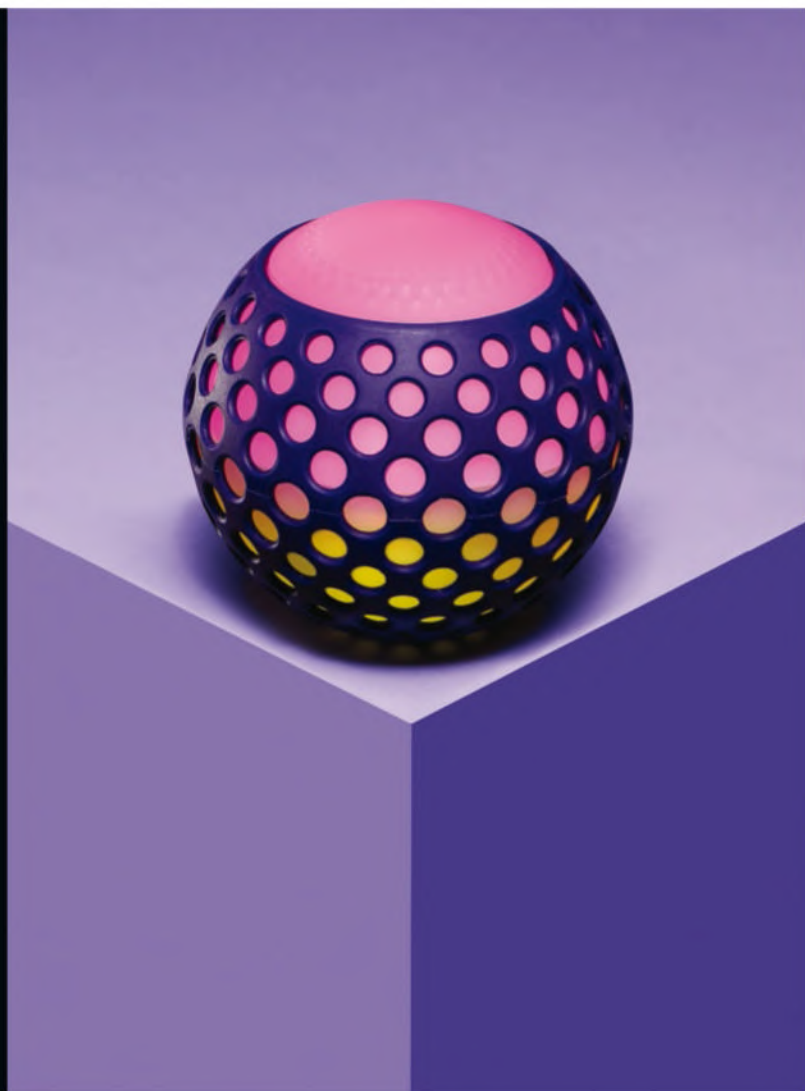


## THE 25 BEST INVENTIONS OF 2015 FOR PLAY

### A MUSICAL INSTRUMENT THAT ANYONE CAN MASTER

> **ARTIPHON INSTRUMENT 1** / \$399 / AVAILABLE  
FOR PREORDER AT ARTIPHON.COM

An estimated 70% of adults want to play an instrument on a regular basis, but only 5% actually do, partly because it's tough to choose just one to master. That's not an issue with the Artiphon, which can mimic dozens of instruments—not just how they sound but also how they're played. It can be strummed like a guitar or tapped like a piano. Or it can mix and match inputs, allowing users to bang banjo chords as if they were drumming. “We’re trying to pave a different path toward musical creativity,” says Jacob Gordon, an Artiphon co-founder, of the device (and its companion smartphone app), which raised \$1.3 million on Kickstarter.



### THE BALL THAT TEACHES KIDS TO CODE

> **HACKABALL**  
\$85 / AVAILABLE  
FOR PREORDER AT  
HACKABALL.COM

At a time when demand for computer scientists is skyrocketing, most Americans get little or no exposure to coding during their formative years. Made by Many, a New York City-based digital consulting firm, is trying to change that. Its Hackaball toy syncs with a mobile app, allowing users to program how and when it lights up—and then to see how those programs affect their lives in the real world. During one test, for example, kids set the ball to change colors at random intervals, then used it to play a hot-potato-style game. Enabling social scenarios—rather than a more isolated, screen-based introduction to coding—is the point of Hackaball, says William Owen, a strategy director at Made by Many. Its concept appears to be resonating: some 2,800 people backed the project on Kickstarter, raising \$240,000. The first units ship in January.

PHOTOGRAPHS BY GREGORY REID FOR TIME



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## THE 25 BEST INVENTIONS OF 2015 FOR PLAY



### THE TOY THAT TALKS BACK

**COGNITOYS DINO**  
\$120 / AVAILABLE  
FOR PREORDER AT  
COGNITOYS.COM

Rather than repeating catchphrases, as “talking” toys have done for generations, this dinosaur taps IBM’s Watson technology to engage with kids ages 5 to 9 in a meaningful way. In addition to answering plain-language queries (like “How far away is the moon?”), the wi-fi-enabled figurine talks back and learns from kids’ responses—helping them hone their math skills, for example, by asking harder questions once they nail, “What is 2 + 2?” and “Can you count to 10?” The trick, according to CogniToys CEO Donald Coolidge, is to make educational development seem like a “cool, fun experience.” “That’s kind of the best toy possible,” he says.



### WHAT’S NEXT FOR RETAIL

## ULTRA- PERSONAL SHOPPING



Instead of grabbing clothes off a rack, ‘you would scan styles using an app on your phone, which already knows your size and if you’ll run big or small at this store. Then you’d go to a specific dressing room, where all the clothes would be waiting.’

**KATRINA LAKE**, CEO  
AND FOUNDER OF STYLE  
APP STITCH FIX



## ALL-ACCESS VIRTUAL REALITY

> **GOOGLE CARDBOARD** / PRICE VARIES / AVAILABLE DIY OR FROM THIRD-PARTY SELLERS

Most of the hype surrounding virtual reality has rightly centered on premium headsets, such as the forthcoming Oculus Rift and HTC Vive (both of which will likely cost several hundred dollars). But Google Cardboard is revolutionary in its own right. Since its 2014 debut, the scrappy viewer—which can be built from scratch using free online instructions and relies on your smartphone screen for visuals—has emerged as a playground for virtual reality, priming brands and consumers alike for one of the world’s most anticipated technologies. There are Cardboard apps that let people drive cars (from Mercedes-Benz), attend concerts (from musician Jack White) and even play immersive video games. “We ask people, ‘Hey, put your smartphone in this piece of cardboard. It’s going to do something amazing,’” says Clay Bavor, a Google VP who oversees VR projects. “And then it does, and they’re shocked.”

PHOTOGRAPH BY GREGORY REID FOR TIME

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**President Clinton tried.**



**President Bush tried.**



**President Obama thinks  
he has an answer.**

# But can America afford this approach to solving student debt?

BY HALEY SWEETLAND EDWARDS

WHEN HILLARY CLINTON, JEB BUSH, MARCO Rubio or any of the 14 other 2016 presidential hopefuls give speeches promising to solve the student-debt crisis facing our nation, they often point to people like Allison Minks. The 35-year-old veteran and mother of two boys owes a staggering \$99,326 in student loans—a sum that her full-time job as a counselor at a nonprofit clinic outside St. Louis doesn't begin to cover.

Like the rest of the tens of millions of Americans who collectively owe \$1.3 trillion in student debt, Minks has made what appears to be a Faustian choice: she pays a small, affordable amount each month, which isn't enough to keep up with the relentlessly compounding interest, and then watches as her principal balloons, year after year.

But if that's where the stump speech usually ends—with grim prospects and a soaring promise to fix the system—there's now a significant plot twist. In the past eight years, the federal government has quietly, almost imperceptibly, changed the rules of the loan game. It has made itself the primary bank for students and put in place an expansive new safety net. A key provision allows all federal borrowers to cap their monthly payments at 10% or 15% of their discretionary income and wipes any remaining balance off the books after 20 or 25 years. If people—like Minks—work in public service, they can get loan forgiveness after just 10 years.

In other words, because of this program, Minks now pays an affordable amount each month and watches her principal balloon—but she'll be scot-free before she is 45. Without the plan, she'd have ended up a quarter-

million dollars in the hole, making payments for decades longer. "It's incredible," she says. "It gives you hope."

Supporters hail this new federal entitlement as a kind of Obamacare for education. It is, after all, a government-backed insurance policy directed squarely at students. But unlike the pitched battles over the real Obamacare, this revolution in student debt has been largely ignored in op-eds, on the nightly news and on the national political stage, where the focus is most often on the 71% of undergraduates who graduate with debt or the 1 in 7 who end up defaulting on their loans. Bush and Rubio have advanced higher-education plans that would overhaul the accreditation process to clear the way for new online institutions offering cut-rate degrees. Democratic front runner Hillary Clinton offers a smorgasbord approach, including cutting loan-interest rates, expanding existing grant programs and offering rewards to colleges that keep their tuition low.

In short, for many students, the problem of being crushed beneath unaffordable payments—and therefore either defaulting or paying off their debt well into old age—has already been solved, even though tens of millions of families and the political class haven't caught up with that fact.

But this new federal safety net contains serious flaws. If they go unaddressed, the program could become hugely costly down the road: the Brookings Institution estimated that it could cost taxpayers \$250 billion over the next 10 years. One problem is that it overwhelmingly favors the most privileged class of students, those getting

PHOTO-ILLUSTRATION BY DAN SAELINGER FOR TIME



➤  
*Suzzane Cawthra, a labor organizer, says the prospect of public-service loan forgiveness is why she went back to grad school*



graduate degrees. It allows them to run up vast debts that they can eventually walk away from by working for a time in “public service” jobs that stretch the common definition of that term and to leave future taxpayers holding the bag. Perhaps most damning, while the program takes the pressure off students, it does nothing to control the actual price of tuition, which has risen like crazy for years. It also arguably makes it more likely that tuition will rise even more quickly in the future, as students’ ability to pay becomes a moot point. Douglas Holtz-Eakin, a former director of the Congressional Budget Office and John McCain’s economic adviser in 2008, sees it as an unmitigated disaster. “Why are we talking about student loans?” he says. “We should be talking about why college is so expensive.”

There are moves afoot in Washington to tighten up the rules. But with gridlock on Capitol Hill and the race for the White House running full throttle, the fate of this powerful and flawed new federal entitlement hangs in the balance.

**TO UNDERSTAND** the new college entitlement, you need to look at two key programs. The first is what’s known as Income Driven Repayment (IDR). There are a handful of plans under this program, the first implemented by Bill Clinton, another by George W. Bush and three more by Obama, but the upshot is this: people whose monthly federal-loan payment

under an IDR plan is less than it would be under a standard repayment plan can now cap their monthly payments at a maximum of 15% of their discretionary income. Those who make the payments, no matter how small they are—even \$10 a month—will see any remaining balance after a maximum of 25 years wiped off the books. Poof, gone. That’s true no matter when people first borrowed, how much their parents earn or what kind of federal loans they have. Most borrowers now get an even better deal. They can cap their payments at 10% of discretionary income and get forgiveness after just 20 years. These programs effectively put an end to students’ needing to default on their loans.

The second key program is Public Service Loan Forgiveness (PSLF). It’s simple: if you’re diligently making payments in one of those IDR plans and you’re working full time for either the government or a registered nonprofit—from a local food bank to a private university—you can sign up to have any remaining balance on your loans forgiven after just 10 years. This program applies only to people who have federal direct loans, but those with federally guaranteed loans can become eligible by reconsolidating them.

Both programs are run out of a nondescript nine-story office building behind the train station in Washington. This is the Department of Education’s Federal Student Aid building. From here, U.S. of-

ficials oversee almost \$1.2 trillion in student debt, a loan portfolio that is already bigger than all of Wells Fargo’s outstanding mortgage, auto, consumer and commercial real estate loans combined—and it’s only getting bigger.

It wasn’t always this way. Up until 2010, the federal government’s role in the student-loan marketplace was behind the scenes, as a guarantor. Every year it would hand out huge subsidies to private banks, like Bank of America, that would then turn around and issue federally guaranteed loans to students. The federal government was on the hook for those loans, but instead of lending the money, it paid banks to lend for it. It was a jerry-built setup that many education reformers argued was a huge waste of taxpayer money. In 2010 they finally got their chance to fix it, with a new law that passed in the same hunk of legislation that created Obamacare. The law eliminated the subsidy program entirely and instead made the Department of Education the direct lender. “We got rid of the costly middleman,” says Robert Shireman, who was Deputy Under Secretary of the Department of Education at the time. The money the government saved went to increase funding for Pell Grants, which go to low-income students.

From your typical student’s perspective, the change was imperceptible. Those receiving Pell Grants saw a bump, but the vast majority of students interfacing with the loan program didn’t



◀ Daniel Michelson-Horowitz chose a career in the public sector despite having more than \$200,000 in debt

notice much of a difference. Federally guaranteed loans from private banks were disbursed in basically the same way, with the same interest rates, as loans directly from the feds.

But the national policy implications of the shift were enormous. In addition to making the Department of Education one of the biggest banks in the western hemisphere, it gave the department more power to rewrite the rules on how the vast majority of student loans are disbursed, repaid and forgiven, without having to pass a law through Congress. Tennessee Senator Lamar Alexander, a Republican and a former Secretary of Education, decried the move as “another Washington takeover.” But for the most part, the expansion of IDR—arguably the single biggest shift in how student loans work in this country—went unnoticed by the American public.

**THE LACK OF ATTENTION** to the rise of this new safety net has been, from the Obama Administration’s perspective, both a blessing and a curse. It was good in that the new federal programs did not earn the energetic ire of congressional budget hawks and were spared the treatment that Obamacare received. But it was also bad because as long as no one knew about IDR or PSLF, students were not enrolling in them.

In late 2013, the Department of Education attempted to fix the problem

with a marketing campaign, complete with YouTube videos, Twitter “office hours” and millions of targeted emails. “No one should be in a position where they’re being crushed by their monthly payments,” Ted Mitchell, the Under Secretary of Education, told TIME recently. “That’s the idea.”

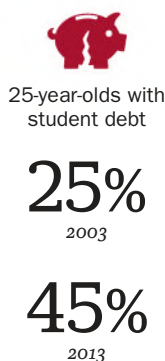
The campaign has been successful. In the past two years, the number of borrowers enrolled in any IDR program has grown by more than 40%, reaching roughly 4 million this fall. The Education Department also estimated that 600,000 people would soon be signed up for PSLF. But despite these increases, the programs remain deeply underenrolled—which means that many students continue to suffer unnecessarily under crushing payments. In 2014, students defaulting on their loans still

outnumbered IDR enrollees 3 to 1.

One reason for those stubbornly low enrollment rates is that choosing among the array of different options, each with its own eligibility requirements, and then navigating the correct paperwork is still fiendishly complicated. The Consumer Financial Protection Bureau also lays some blame on loan servicers—the third-party private contractors that are supposed to help students choose an appropriate repayment program—which it says have not been providing adequate information about IDR and PSLF. New Education Department rules require loan servicers to tell students about the programs.

Justin Hoenke, a 34-year-old father of two from Titusville, Pa., who works as a public librarian, says he has tried three times to sign up for PSLF but keeps getting letters back saying he “didn’t fill in one box or something like that so I had to send it in again.”

**FOR OBAMA**, the new federal safety net for students represents the fulfillment of an original campaign promise. At the beginning of the financial collapse, in 2008, Obama gave a series of speeches lamenting that the most talented graduates often feel they have no choice but to look for a job on Wall Street or in another high-paying private sector to pay back their loans. What if, he mused, the best and brightest could be lured to jobs in the public interest instead? “The idea of





## Free money

How much of your loans will be forgiven depends on the cost of living in your state, your salary after graduation and whether you work at a nonprofit.



### Information technologist

FLORIDA

B.S. from a public college

STARTING SALARY: **\$46K**  
ADJUSTED INCOME: **\$37K**

LOAN BALANCE

**\$24,017**

at 4.7%

BORROWER  
PAYS BACK

**\$26K**

AMOUNT  
FORGIVEN

**\$6K**



### Startup owner

GEORGIA

B.A. from a public college

STARTING SALARY: **\$23K**  
ADJUSTED INCOME: **\$10K**

LOAN BALANCE

**\$28,400**

at 4.7%

BORROWER  
PAYS BACK

**0**

AMOUNT  
FORGIVEN

**\$55K**



### Schoolteacher

OKLAHOMA

B.A. from a public college

STARTING SALARY: **\$34K**  
ADJUSTED INCOME: **\$23K**

LOAN BALANCE

**\$28,400**

at 4.7%

BORROWER  
PAYS BACK

**\$10K**

AMOUNT  
FORGIVEN

**\$32K**

people not being able to become teachers and nurses because of this debt was very front and center for him,” a White House official told TIME recently. His Administration’s decision to expand the IDR program, which was originally passed under Clinton, and PSLF, which was started under George W. Bush, is the fruit of that idealism. The programs are designed to level the playing field, to allow young people to choose the careers they want without, as Hoenke puts it, “signing up for financial ruin.”

The public-service industry has been quick to take up the mantle. Universities and nonprofits, like Georgetown and the Association of American Medical Colleges, are already using IDR and PSLF as recruiting tools, touting them on their websites and in their promotional material. “Many parents come to us very concerned about their children’s choice in major and try to get them to switch, because of loans and earning potential,” says Anissa Rogers, director of the Dorothy Day Social Work Program at the University of Portland. “Loan forgiveness helps calm the anxiety, both on the part of students and their parents.”

Medical and law schools have also publicly embraced the programs, in part because their students tend to take on mountains of debt and make modest salaries in the years immediately after graduation, explains Matthew Schick, a senior legislative analyst at the Association of American Medical Colleges. The combination of IDR and PSLF may encourage

young residents to choose less lucrative specialties, like primary care, or to serve in rural hospitals, he says.

Philip Schrag, a professor at Georgetown Law School, which covers the monthly loan payments for graduates who go into public service, says the federal program encourages bright, passionate young lawyers to “make less financially motivated decisions.” Daniel Michelson-Horowitz, who graduated in December 2013 from Georgetown Law with more than \$200,000 in debt, always wanted to work in public service but credits IDR and PSLF for making that a “financially responsible choice.” He now works at the Food and Drug Administration, where he earns less than half what

a first-year associate makes at a big law firm. “I wouldn’t be where I am today without it,” he says.

**THE CLEAR BENEFIT** of the new programs to young professionals like Michelson-Horowitz also fuels one of the sharpest criticisms: Why does this federal entitlement provide the most generous benefits to the most privileged students, like lawyers and doctors, who take on the most debt? Aren’t they the ones who are most likely to succeed no matter what—without taxpayer help?

“I think most people like the idea of helping a public-school teacher or a nurse pay off her debt,” says Andrew Kelly, an education expert at the conservative American Enterprise Institute. But, he argues, the definition that the government uses for “public service” is much more expansive. It includes anyone who works at any government agency or registered nonprofit, which could apply to upwards of 25% of the American workforce. That means schoolteachers, but it also means a financial manager overseeing the endowment at Yale, a registered nonprofit. “Why is that inherently more valuable to society than starting a business?” Kelly asks.

Another major weakness of the new federal safety net, Kelly says, is that it does not cap the amount that graduate students can borrow from the federal government. Dependent undergrads are barred from borrowing more than about \$31,000 in federal loans—a



**\$21.8**  
BILLION

Budget  
shortfall this  
year due to  
the new loan  
program

**\$250**  
BILLION

Shortfall  
expected by  
2025



### Barista

RHODE ISLAND

M.F.A. from a private art school

STARTING SALARY: **\$19K**

ADJUSTED INCOME: **\$15K**

LOAN BALANCE

**\$70,000**

at 7.2%

BORROWER  
PAYS BACK

**\$7K**

AMOUNT  
FORGIVEN

**\$164K**



### Nonprofit lawyer

OHIO

J.D. from a private law school

STARTING SALARY: **\$54K**

ADJUSTED INCOME: **\$40K**

LOAN BALANCE

**\$122,158**

at 7.2%

BORROWER  
PAYS BACK

**\$31K**

AMOUNT  
FORGIVEN

**\$179K**



### Orthopedic surgeon

MASSACHUSETTS

M.D. from a private medical school

STARTING SALARY: **\$57K**

ADJUSTED INCOME: **\$45K**

LOAN BALANCE

**\$310,000**

at 7.2%

BORROWER  
PAYS BACK

**\$130K**

AMOUNT  
FORGIVEN

**\$404K**

cap that covers the difference between what most students' families can contribute and what they need. Independent undergrads—those who are married, have children or are otherwise likely to be footing the bill on their own—are barred from borrowing more than \$57,500. But graduate students are different. They can take out as much as necessary to cover the full cost of attendance, which can mean hundreds of thousands of dollars. That's helped fuel a run on graduate borrowing in the past eight years. The amount per student disbursed through Grad PLUS, one of the loan programs for graduate students, tripled from 2007 to 2015, according to statistics from the Department of Education.

The lack of a cap on grad-student borrowing, combined with PSLF, creates even more of a mess, said New America researchers Jason Delisle and Alexander Holt. In a recent paper, they showed that once graduate students borrow beyond a certain amount, there's very little probability that they'll ever have to pay it all back, given average salaries, caps on monthly payments and forgiveness after 10 years. Take, for example, a young law student who wants to work at a nonprofit. If you look at the average salary for a nonprofit lawyer in his age group over the next 10 years, then calculate his monthly payment at 10% of his discretionary income, he is likely to pay back \$49,000. Anything beyond that is picked up by the American taxpayer.

Defenders of the program say that's a

good thing: society benefits from bright young lawyers working in the public interest. But Delisle suggests it's not the best use of limited public funds. Under IDR and PSLF, the federal government will forgive roughly \$147,000, including interest, for every lawyer with an average debt load who goes into public service. That's about 10 times what an average Pell Grant recipient gets over her entire undergraduate career, Delisle says.

Perhaps the most pointed criticism of the new federal programs is they act as a powerful, if indirect, subsidy for the \$488 billion higher-education industry. If students can expect to see their monthly payments capped and much of their balances eventually forgiven, what incentive

do colleges and universities have to keep tuition low?

James Leipold, executive director of the National Association for Law Placement, a 2,500-member group that advises law students and lawyers on employment issues, says the "unlimited flow of federal dollars" helps underwrite colleges and universities that are building "health clubs and climbing walls and cafés and cinemas." Colleges have also been criticized for hiring an ever increasing number of administrators. "Maybe that's fine, if as a country we say, 'That's good, and we want to subsidize that,'" but we should be aware: "That's what's being subsidized."

Holtz-Eakin, McCain's former adviser, says the federal safety net for students simply "makes the same mistake that Obamacare did: it creates a federal subsidy for insurance rather than addressing the underlying cost." Both the student-loan program and Obamacare, he says, attempt to provide individual subsidies in industries that don't operate like normal markets because they're funded by both public and private sources and because customers are often not able to judge the relative quality of the end product. "Healthiness" and "a good education" aren't easily quantifiable. "What we get out of these things are products of extremely high cost and middling quality



Allison Minks, a counselor at a nonprofit, will have more than \$100,000 in student loans forgiven





that can't easily be measured," Holtz-Eakin says. "It doesn't make any sense."

While experts question the effectiveness of the new programs, the campaign rhetoric about college affordability charges ahead. For the most part, the Democrats have centered their attention on the idea of "debt-free college"—a carefully branded phrase that was popularized by the left and that appears to mean different things to different people. Obama has thrown his weight behind waiving all community-college tuition for all students with a C average or higher, while Clinton has put forth a dense proposal that offers an array of solutions costing up to \$350 billion in the next decade. She calls for lower student-loan interest rates, better work-study programs, more direct aid to low-income students and a suite of federal incentives designed to reward institutions that keep their tuition low. Meanwhile, Bernie Sanders and Martin O'Malley have advanced even more ambitious "debt free" plans that hinge on large, direct federal subsidies for colleges and universities, so that tuition would be no higher than what a student can earn with a summer job.

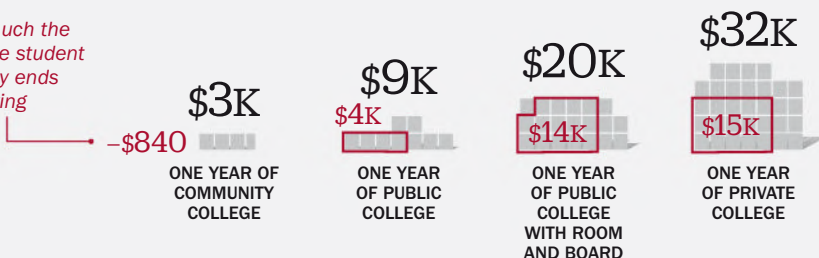
The Republican presidential candidates offer a range of different ideas. Bush, who is known as an education reformer in his home state, has pushed for making colleges and universities more transparent about average tuition hikes, fees and graduation rates so students can make more informed and individualized choices about their educations. Both he and Rubio have also extolled the possibilities of "virtual classrooms," as well as alternative licensing programs to reward students for skills learned outside the traditional classroom. Rubio and Chris Christie, meanwhile, have advanced a private-sector solution that would allow wealthy benefactors to underwrite the cost of a young person's education in exchange for a percentage of his future salary. Donald Trump has given some attention to the allegation that the government turns a handy profit off the interest from its student-loan program. The claim is contentious. Many economists argue that it appears profitable only if you use the strange economic model Congress requires the Congressional Budget Office to use. "If you use that model, buying the Greek debt looks profitable," Delisle warned.

## Funding the dream

Congrats, you're on your way to a degree. Now what? Here's a quick guide to how much college really costs—and where to find the cash to pay for it.

### Average sticker price for tuition and fees

How much the average student actually ends up paying



### HOW TO PAY FOR IT

Go for the easy money first ...

#### SCHOLARSHIPS AND GRANTS

#### PELL GRANTS

### HOW MUCH IS AVAILABLE

In 2014–15, undergrads received an average of **\$6,110** each from state governments, businesses, colleges and nonprofits.

**\$5,775** was the maximum for the 2015–16 school year. That number changes slightly every year, depending on Congress's budget.

### WHO CAN GET IT

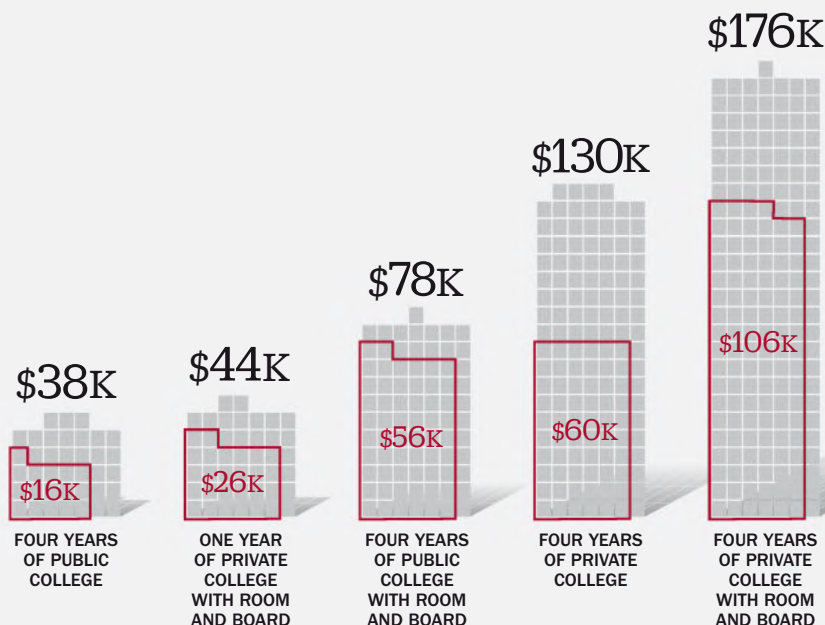
About **60%** of students get aid for sports, academics, extracurriculars or just for being an important part of the student body.

**Low-income students who submit a FAFSA.** Eligibility is based on income, a school's cost and full-time status.

### HOW IT IS REPAID

**No repayment necessary.** That's the great thing about grants and scholarships: they really are free money.

Just as with other scholarships and grants, there's **no repayment necessary.** But, again, the only way to qualify is to submit a FAFSA.



... then use loans to close the gap

#### FEDERAL DIRECT LOANS

**\$31,000 over four years** for dependent undergrads, **\$57,500** for independent undergrads and an unlimited amount for grad students.

**Anyone who meets the general requirements**, such as citizenship or legal immigration status and good credit.

**Interest rate is 5.8% for undergrads and 6.8% for grad students.** Payment caps at 10% or 15% of income; forgiveness after 10, 20 or 25 years.

#### PARENTPLUS

An **unlimited amount for parents of undergrads**, through the federal ParentPLUS program.

**Any parent who meets the general requirements.**

**Interest rate is 6.8%.** Parents don't qualify for income-based repayment or loan forgiveness. But some low-income parents can get additional help.

#### PRIVATE BANKS

There is **no official cap**, but borrowers should beware variable interest rates and requirements to begin repayment while still in school.

**Anyone with good credit or with a co-signer with good credit.** Roughly 10% of students rely on private loans.

**Interest rates range from 1% to 18%.** Private banks do not have to offer forbearance, much less income-based repayment or forgiveness.

As for fixing the federal student-loan program, there has been some surprisingly bipartisan attention behind the scenes. Rubio, who only recently repaid his own student debt, has joined with Democratic Senator Mark Warner in proposing legislation that would “consolidate, simplify and improve” the array of existing IDR options. Under their plan, students would be automatically enrolled in an IDR plan upon graduating.

On Dec. 1, new Education Department rules will also go into effect. They will create yet another IDR program that allows anyone with direct federal loans to cap his or her monthly payments at 10% of discretionary income and get loan forgiveness after 20 years. The new program takes a step toward addressing the criticism that the programs favor graduate and professional students. It caps the total amount of loan forgiveness per student at \$57,500 and extends the payment period for those with graduate-school debt to 25 years. But that cap applies only to the new program—those enrolled in, or eligible for, any of the other four IDR programs can still get their whole remaining balance, including interest, forgiven after as little as 20 years. The cap doesn't apply to borrowers enrolled in PSLF.

Both Republican and Democratic policy wonks have also been busy suggesting solutions to the root of the problem: endlessly rising tuition. The yearly hikes are driven largely by strapped state governments' cutting education funding and by institutions' spending ever more on administrators and slicker campuses. A mixture of federal incentives for institutions that remain affordable, plus opening doors to an influx of disruptive online universities and alternative paths to a traditional college degree, could make raising tuition less attractive—and eliminate the need for the government to subsidize student debt in the first place.

In the meantime, the Obama Administration hopes more students will continue to enroll in IDR and PSLF. Minks, the counselor and mother of two, says she's doing her part. She tells colleagues and friends about the programs all the time. “They usually don't believe me,” she says. “They think it's too good to be true.” —*With reporting by ALEX ALTMAN, ZEKE J. MILLER and MARK THOMPSON/WASHINGTON*

GRAPHIC SOURCES: FEDERAL RESERVE; DEPARTMENT OF EDUCATION; 2015 COLLEGE BOARD REPORT



# The man who brought down Volkswagen

How a tiny lab busted a giant automaker—and what it shows about the future of cheating

By Charlotte Alter / Morgantown, W.Va.

**THIS IS ONE** of those parts of West Virginia where people fix one another's tractors just because it's neighborly. Nestled in the Appalachian Mountains, just 200 miles (320 km) from the D.C. headquarters of the Environmental Protection Agency, Dan Carder's lab at West Virginia University in Morgantown is the folksy antithesis to the bureaucracy in Washington. It seems more like an auto-body shop than a science lab—Carder welded the pipes himself, the insulation is held together by foil tape, and the air smells like diesel fuel. Here, on threadbare chairs and a tiny budget, Carder and his team discovered the emissions problem in Volkswagen diesel cars that could cripple one of the world's biggest automakers.

You might be wondering how a tiny team of engineers discovered the problem with Volkswagen before the EPA figured it out. After all, the EPA has an annual budget of over \$8 billion, with \$12 million specifically allocated to oversee compliance with transportation regulations. Yet Carder and his team found the emissions discrepancy on a \$69,000 grant from the International Council on Clean Transportation (and that includes the cost of diesel fuel). The scandal could cost Volkswagen billions of dollars, since the company admitted to using defeat devices to cheat on emissions tests. And now that the EPA says it has found additional defeat devices on Porsche and Audi cars, it seems as if the problem might be even bigger than anyone initially imagined.

Carder and his team at WVU's Center for Alternative Fuels Engines and Emissions (CAFEE) could have sprung from a 1940s comic book: a plucky gang of West Virginia scientists working together to expose the lies of a powerful German company. But this story is really about the future of cheating and the ability (or inability) of government regulators to catch it. Cars, like drugs or planes or so many other products we ask the government to regulate, keep getting more complex. Yet regulations often evolve more slowly than the products,



*Dan Carder in his lab at West Virginia University; he and his team of researchers have built most of the facility by hand*







which makes it easier for companies to cheat. That means innovators like Carder can get answers that government bureaucrats can't—or won't.

Carder and his team aren't stopping at Volkswagen. They've invented a new device that could reduce the need for government oversight by crowdsourcing emissions data from thousands of cars and putting regulation in the hands of consumers.

But Carder is reluctant to call himself a whistle-blower, since he didn't set out to take down Volkswagen. He says he and his team were just doing the same work they always do. "We may be David and they may be Goliath," Carder says, "but we were never in a fight."

**BEFORE THE EPA** found the defeat devices, before Volkswagen tried to expand diesel into the U.S. market, before anxiety about air quality reached a fever pitch, Dan Carder was just a kid who didn't want to stray too far from home. He chose West Virginia University over a full ride at Virginia Tech so he could visit his family in nearby Mineral Wells. He stayed there for his master's degree and then in 1998 joined the team that developed the Portable Emissions Measurement System (PEMS) to test diesel exhaust on the road.

Prepare for some *déjà vu*: in 1998, a group of seven heavy-duty diesel manufacturers—including Caterpillar, Cummins and Mack Trucks—got caught using defeat devices to pass EPA emissions tests. In addition to paying \$83 million in civil penalties, the manufacturers were required to develop onboard emissions testing to help ensure that truck emissions were the same on the road as they were in the lab. So the manufacturers approached a team of engineers at WVU to help them monitor road emissions, and Carder was on that team. The WVU team helped develop PEMS for diesel but didn't get a patent. (The EPA had already developed a similar technology and applied for a patent earlier that year.) Carder has an "oh well" attitude about it but notes that PEMS are now sold for hundreds of thousands of dollars.

Flash forward to 2013, when two of Carder's students, Marc Besch and Arvind Thiruvengadam, headed from Morgantown to Los Angeles to test the emissions on light-duty diesel vehicles. They

picked L.A. because diesel cars were easier to find there and because they could check their results on the dynamometer at the California air resources board. (A dynamometer is like a treadmill for engines.) They took a PEMS with them.

That PEMS, about the size of a picnic cooler, was sitting in the back of a Volkswagen Jetta on the morning in 2013 when Besch and Thiruvengadam went out for a drive. As they sat in Los Angeles traffic, they knew that the diesel engine of their Jetta TDI was busy creating oxides of nitrogen, or NOx, a smog-forming pollutant. The two Ph.D. students also thought the Jetta was using its selective catalytic reduction system, which reduces NOx emissions by at least 90% before the pollutant reaches the air.

But Besch and Thiruvengadam noticed that the NOx emissions were changing with the acceleration of the car instead of staying at a consistent low. When they went up a hill or sped up, the NOx would spike, making their laptop screens look like heart monitors when they should have been seeing a flat horizon. This was unexpected, since when they had tested the same cars in the lab at the California air resources board, the emissions had been below certification levels. "We weren't required to figure out what it is. We were just there to report it," Carder says. "We don't know why, but it's there."

**ONCE CARDER AND HIS TEAM** back in West Virginia published the discrepancy, the EPA and California air resources board investigated and found the cheat. It turns out that what happens inside some Volkswagen models in the lab is not what happens on the road. When a Volkswagen is tested on a dynamometer, the car's computer system recognizes that it's being evaluated and it goes on its best behavior: the selective catalytic reduction system, or SCR, triggers an injection of diesel

exhaust fluid, which breaks down the NOx into harmless nitrogen and water. So when the SCR is working, NOx is reduced from 1,000 p.p.m. to just 5 or 10 p.p.m.

But when the cars are driven on the road, a defeat device keeps the SCR system from kicking in, allowing the NOx to pump into the atmosphere at alarming rates. NOx is linked to acid rain and global warming and can cause lung problems and other health conditions.

But if Volkswagen had already installed the SCR technology, why would it cheat by disabling the system? First of all, if the SCR were working correctly, it would hurt the car's fuel economy and reduce the power of the engine, which is a major selling point for the cars. Second, the company may have been frustrated with U.S. air-quality standards, which are much stricter than European regulations. "There's a pervasive mentality that these restrictions are ridiculous and we're going to do what we want," says Eddie Altermann, editor in chief of *Car and Driver* magazine. "There's always been a kind of disdain for America at Volkswagen." (A company spokeswoman says America remains "very important" to the company and it plans to invest more than \$7 billion the U.S. in the next four years.)

Carder thinks the defeat device could have been a by-product of design constraints and marketing concerns. In order for SCR to work correctly, you need enough diesel exhaust fluid, or DEF, onboard. That means either carrying a big tank of DEF inside the car, which would take up valuable interior real estate and could require costly redesigns, or asking drivers to frequently go back to the dealer to get the DEF refilled. "You've now told the consumer that there's something else you've got to worry about," Carder says.

The EPA issued a notice of violation to Volkswagen on Sept. 18, accusing the company of installing a defeat device that caused NOx emissions at 40 times the standard limit. Since then, Volkswagen stock has plummeted, the company has set aside about \$7 billion to ensure compliance, and it could owe at least \$18 billion in EPA fines. Then, on Nov. 2, the EPA announced that even more defeat devices had been found, this time in Audi and Porsche models. (Volkswagen says it has stopped selling those cars and is working to "clarify" the finding.)

**The EPA has a budget of over \$8 billion. Carder's team was operating on a \$69,000 grant (including the cost of diesel fuel)**

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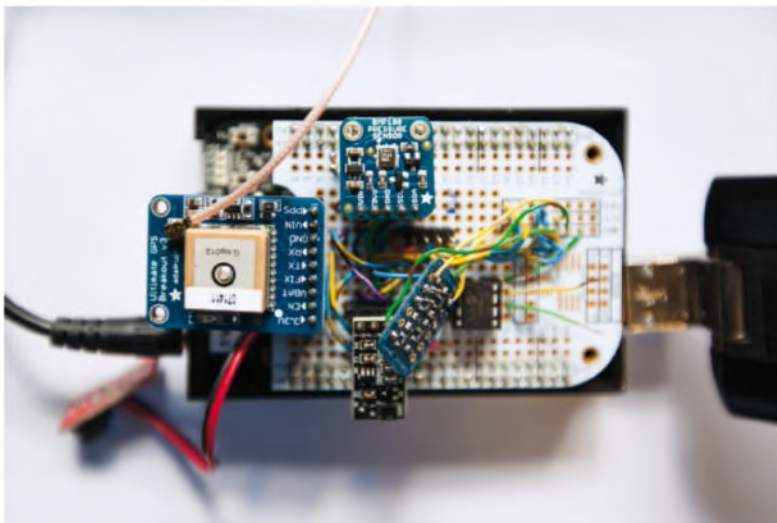
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A prototype of AirCom, a tiny emission-detection device that can fit on the back of a tailpipe

**IF RULES ARE MEANT** to be broken, then regulations are meant to be flouted. Ever since the U.S. started regulating interstate railroads in the 19th century, the government has at times positioned itself as the watchdog of public interest, though the “public interest” has sometimes been driven most by the needs of the private sector. Still, Americans expect regulatory agencies to make sure the products they use are safe and ethical and, most important, do what they say they’re doing. But some companies thrive on the ambiguity of the regulations and spend millions of dollars to edit and tweak rules as they are drafted and enforced.

The tobacco industry, for example, has long sold small brown cigarettes as “cigars” because they’re subject to fewer regulations (although the FDA has proposed new rules to address the loophole). Defense contractors enjoy a different advantage: at the Pentagon, billion-dollar weapons are often tested in highly controlled environments that have often been shown to be favorable to contractors if not exactly rigged. That can speed their way from the blueprint to the battlefield.

Automakers enjoyed similar leeway at the EPA, which until recently had fairly predictable evaluations and even allowed automakers to conduct some of their own testing and report the results. “It’s like knowing the questions that are going to be on a test before you take it,” Carder says. So if the EPA already knew that road testing was different from dynamometer testing from its 1998 experience,

why were the Volkswagen cars tested only in a lab?

“We can’t set a standard without a rigorous and repeatable test procedure. Otherwise we can’t compare our results with auto-industry test results,” explains Chris Grundle, director of the Office of Transportation and Air Quality at the EPA. He noted that the EPA does do road testing but mostly on heavy-duty diesel trucks, since they account for the “lion’s share” of emissions. (Only 0.01% of NOx comes from light-duty cars.) In the aftermath of the Volkswagen scandal, the EPA says it has incorporated on-road testing of passenger cars, added testing for defeat devices and plans to mix up its testing so that manufacturers don’t know exactly how vehicles will be evaluated.

The testing has to be standardized in order to be fair to carmakers that have billions of dollars at stake. But that brings up questions about the relationship between the regulators and the regulated: Are government agencies meant to sniff out corruption or to guide corporations down the right path? “They don’t see themselves as law-enforcement agents. They see themselves as consultants,” says Ralph Nader, a consumer advocate and former presidential candidate who helped make seat belts an industry standard. “They see themselves as nudgers at best.”

**THERE’S SOMETHING** about Carder that’s reminiscent of an old-fashioned dad from a kinder, more capable America. He climbs trees to shoot game, leaving his cell phone at home. He hunts bears with a bow and arrow and eats the meat for dinner—bear, he says, “tastes greasy.” And on the morning he found out that his research had led the EPA to condemn Volkswagen for cheating, he had to wipe engine grease off his hands before he could pick up his phone. He spent the next weekend ignoring the media firestorm, opting instead to fix a truck for a friend of a friend, free of charge.

Carder feels ambivalent about modern technology and says kids are too fixated on their phones to tinker with engines the way he did. So it’s a little ironic that his next invention may be applying Internet-style crowdsourcing to engine emissions. Carder and his team know it’s impractical to expect all drivers to carry a noisy PEMS in their backseat, so they’re developing a much smaller measurement system that can be attached to the tailpipes of thousands of cars. The AirCom would be slightly less accurate than a lab test but much more comprehensive, Carder says, which would give air-quality experts a better idea of what’s actually in the atmosphere.

The AirCom is a small block about the size of a playing card that can fit in the palm of your hand. It could work like traffic-monitoring app Waze, but for emissions: the device could tell drivers when they enter a high-emissions area and either suggest they change course or adjust the fuel efficiency of the car. And Carder’s teammate Greg Thompson says they envision a system in which drivers could even get a break on the cost of their registration if they agreed to put the device on their tailpipe.

Carder says he applied for EPA research funding involving the AirCom four times from 2011 to 2015, including twice for funding specifically to develop this device. He was denied every time.

The irony is that democratizing on-road testing would make it much harder for manufacturers to cheat the EPA. “When you connect something to a tailpipe, there’s virtually no way to detect that,” Carder says. “So whatever you see is what you’re getting.” This time, he says, they’ll get a patent. □

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# ***A Tale of Two Airlines***

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*Alaska Airlines and Delta are at war over Seattle. Which carrier wins could change the way you fly—no matter where you're headed*

*By Alex Fitzpatrick*



**Delta flies some  
150 million  
passengers a year  
to 326 cities on six  
continents**

**IT'S A SUNNY AFTERNOON** in the Pacific Northwest, without a hint of wind. For me, that's wonderful news. I'm sitting in the pilot's seat of a Boeing 767 on final approach to Seattle-Tacoma International Airport. For the next three minutes, my job is landing this 200-ton aircraft safely. Keeping the plane in good enough shape to use it again would be a nice bonus too. But even on this still autumn day, I'm fighting to keep the 767 even.

The computer calls out my quickly dropping altitude: 1,000 ft., 900, 800. For most of the approach, a digital display guides me. But at 500 ft., I have to look outside. At 100, I cut the engines and pull the nose up, losing sight of the runway. This, I know from experience flying in tiny two-seaters, is a maneuver called a flare. It's designed to slow my descent before touchdown, but understanding that doesn't make it less scary. Suddenly there's a bang followed by a terrible shudder. I think we've crashed. But I let the nose fall, switch to reverse thrust and hit

the brakes. We land in one piece, if a little off the centerline. "Nice job," says Captain Doug Israelite, an instructor pilot at Delta Air Lines. "Want to go again?" he asks, resetting the simulator.

My landing may have gone smoothly, but in the real world—which is headed into the frantic holiday travel season—Seattle-Tacoma International (Sea-Tac for short) is experiencing plenty of turbulence. It has become the battleground for the biggest fight in the U.S. airline industry. On one side is Alaska Airlines. Though nearly invisible on the East Coast, Alaska is the nation's No. 6 airline by market share, shuttling to more than 100 destinations throughout the U.S., Canada and Mexico, mostly from its Sea-Tac headquarters. It's succeeded by putting an emphasis on service. On the other side is Delta, which flies everywhere from Stockholm to Shanghai and is among the world's largest airlines by passengers flown. It's succeeded by getting bigger.



Until recently, Alaska and Delta were partners. Now they are at war, fighting for market share—and their clash has implications for passengers far beyond Seattle. For the past decade, air travel has gotten more and more miserable. Flights cost more. Passengers are grumpier. And delays are up. A lot of this has coincided with less choice for consumers as airlines consolidate. If anything is going to improve, challengers like Alaska are going to have to find ways to compete with much larger firms like Delta. From how much you pay to what it's like to fly once you're actually on board, the stakes couldn't be higher.

**ALASKA TRACES ITS ROOTS** to 1932, when a fur trader named Linus McGee started flying passengers alongside his wares. Today, Alaska is an oddity in the airline business. It's not a global megacrier like American or United. Nor is it an ultra-low-cost carrier like Spirit, which makes money by offering only the most basic service and charging passengers for every upgrade it can put a price tag on. Think of Alaska as the largest regional carrier around, with an ever expanding list of destinations.

Another oddity: Alaska's customers actually like flying it. It was the first major carrier to sell tickets over the Internet, it regularly wins an annual airline customer-service award coveted by competitors, and it is buying special planes with nearly 50% more overhead bag space. (Bring on those Rollaboards!) In 2014, when U.S. carriers posted their worst on-time performance in years, Alaska had the second best numbers in the industry. Only Hawaiian Airlines, which benefits from terrific weather at its prime airports, did better.

Alaska is also remarkable because its business model defies physics. A successful airline demands one of two things. There's scale, which brings the ability to serve lots of markets of all sizes. Or there's rock-bottom pricing, sacrificing the passenger experience in the name of lower fares. Despite its small size and focus on customer service, Alaska Airlines keeps making money. In October, the company announced a record adjusted net income of \$274 million for the third quarter of 2015. It also happened to be Alaska's 26th consecutive quarterly

profit. Consistency like that just doesn't happen in this business, notorious for its boom-and-bust cycles.

Brad Tilden, Alaska's 54-year-old CEO, is a Seattle native who has been in the top job for three years. He was trained as an accountant and once served as CFO, but he fell in love with aviation as a boy, around the same time he was on his way to becoming an Eagle Scout. Today he holds a private pilot certificate and owns a four-seater Cessna. His flying experience, Tilden told me, helps inform how he runs the company.

"Sometimes people can overcomplicate their life, and all they care about is strategy, or they spend a lot of time on things they actually can't control, like competition, or fuel, or the economy," Tilden says. "Sometimes you're better off flying the airplane," he adds, echoing a pilot's maxim that calls on aviators to pay attention to operating their aircraft before all other duties. "You take care and do well with the things that are directly in your control."

Unfortunately for Tilden, the biggest threat to his airline is entirely out of his control. It's coming from 2,200 miles away, the Atlanta headquarters of Delta. Tilden's counterpart there is Delta CEO Richard Anderson, a 60-year-old lawyer who started out as an assistant district attorney in Harris County, Texas. "I thought that was going to be my career," he says. "But then I got married and had big student loans to pay off."

Anderson got a job in Continental

**'We have built  
loyalty basically  
by being a good  
airline.'**

—Brad Tilden, CEO of Alaska Airlines



Airlines' legal department. Working his way up the corporate ladder, he eventually left for Northwest Airlines, where he became CEO in 2001. He arrived at Delta in 2007, leading the company through a merger with Northwest.

Delta's headquarters are littered with portraits of founder C.E. Woolman, who in 1928 joined four other financiers to start what would become Delta Air Lines, named for the Mississippi Delta over which it first flew. The modern Delta was born in 1991, when the airline acquired prized routes from the dying Pan Am. But by 2005, high fuel prices, labor costs and other issues conspired to send the airline into Chapter 11. There it remained until 2007. Since then, Delta has emerged as a powerhouse. Anderson now runs arguably the most respected airline in the world. It just had a record quarter, posting an adjusted net income of \$1.32 billion—or more than 10% of Alaska Airlines' entire market capitalization.

These two airlines differ dramatically. There's the sheer size of Delta's operation. Its 15,000 daily flights serve every continent save Antarctica; Alaska flies less than a fifth of that number and mostly in North America. While Delta posts remarkable on-time ratings compared with its similarly sized peers, it was still outdone by Alaska in 2014. Then there's the fleet strategy: Delta owns or leases 800 aircraft, a hodgepodge of Boeings, Airbus and McDonnell Douglas with an average age of 17.1 years. Alaska's airplanes, all Boeing 737s, tend to be newer, with an average age of 9.6 years. Delta executives say flying older airplanes helps keep costs down, but it's not exactly something you might put in the company brochure. Finally, there's customer service. While Delta has upped its game significantly in recent years, it's Alaska that has won top honors eight years running in J.D. Power's ranking of airlines for customer service.

**WHY COMPARE THEM** at all? Because three years ago, the \$40 billion behemoth from Atlanta set its sights squarely on Seattle. Anderson walks me through the logic, but it boils down to one thing: Asia. (It helps to look at a map.) "When you fly from Los Angeles to Tokyo, you look down about two hours into the flight, and you're going to be right over the top

of Seattle,” Anderson says. He adds that Seattle “was served by a relatively small regional carrier that didn’t have regional jets of any size and didn’t serve much east of the Mississippi. So when you looked at that opportunity, it was a perfect business opportunity. It had just been overlooked.”

On Oct. 8, 2012, Delta announced a significant buildup of its international service via Seattle. But the long-term plan wasn’t immediately clear. Delta and Alaska were then close partners, with Alaska’s domestic traffic into Seattle feeding Delta’s flights to Asia and vice versa. In a joint press release, Anderson and Tilden both sounded upbeat. “Customers of both our airlines will benefit,” crowed Anderson. Tilden boasted about the “new flying options” the deal would mean for Alaska’s passengers.

The chummy mood didn’t last long. Delta began flying routes into Seattle that competed directly with Alaska. Alaska responded by cozying up to American Airlines and adding new destinations, including Delta stronghold Salt Lake City. The battle for Seattle was on.

To go after Alaska’s greatest strength—fiercely loyal customers—Delta poured millions of dollars into upgrades at Sea-Tac, including a new passenger lounge. It embarked on a marketing campaign branding itself “Seattle’s global carrier.” It also signed deals to fly Seattle’s professional football and soccer teams. (Alaska fired back by naming Seattle Seahawks star Russell Wilson as “Chief Football Officer.”) Delta soon claimed a significant chunk of market share. In September, 18% of Sea-Tac passengers flew on an airplane with Delta’s red chevron on its tail, up from 11% three years ago. Alaska and its regional affiliate now claim less than half of Seattle’s traffic.

In many ways, this has been a blessing for travelers—and a textbook example of the benefits of competition. Thanks to the rivalry between Delta and Alaska, flying out of Sea-Tac costs passengers nearly 10% less than the average fare at airports handling similar amounts of traffic. “With two healthy, strong competitors, we have excellent competition on airfares,” says Steve Danishek, a Seattle-based travel analyst. There’s an upside for the region’s booming businesses too: Both airlines are adding new nonstop routes, making it easier for employees at

companies like Amazon and Microsoft to move about the country.

But the more heated the battle gets, the more chaotic Sea-Tac feels. The once sleepy airport set passenger records every month this summer, reaching a high point in August when 4.5 million travelers passed through its gates. Yet Sea-Tac isn’t designed to handle those numbers. “We are bursting at the seams at every corner of the airport,” says Ted Fick, CEO of the Port of Seattle, which oversees Sea-Tac. Fick says Sea-Tac’s 40-year-old international-arrival facility was designed to handle 1,200 passengers at peak. Today it’s dealing with about 1,800. “What that means is you have the privilege, after a 14-hour flight, of having to sit on the airplane for 30 to 45 minutes because we have nowhere to put you,” says Fick. He’s asking for \$2 billion in upgrades. For now, more passengers will find themselves disembarking from their aircraft down stairways and onto buses as open Jetways become increasingly rare.

You might guess that the mighty Delta is destined to crush the comparatively tiny Alaska. But so far Alaska has shown remarkable resilience. The company’s stock is up over 30% on the year, outperforming both Delta’s and the S&P 500. “As uncomfortable as it probably makes Brad Tilden,” says Fick, “if you look at the metrics and the optics of this, they’ve become a better airline.” Still, all airlines are benefitting from today’s unusually low fuel prices. It’s unclear how a spike in oil might alter the playing field.

**‘Even though  
Alaska doesn’t like  
competition, it’s a  
wonderful thing.’**

—Richard Anderson, CEO of Delta



Some industry observers believed Delta’s buildup in Seattle was a prelude to buying Alaska Airlines. Tilden has taken steps to ward off an acquisition, including a series of stock buybacks. “I bet a lot of CEOs worry about this, but you want your company to be around,” the Alaska CEO says. “You want your company to be independent.” Anderson told me flat out that Delta isn’t looking to buy. “We have no interest in acquiring Alaska,” says Anderson. “None whatsoever.”

**FLYING IS A LOT NICER** for everyone when you have both a Delta, which can efficiently whisk passengers all around the world, and an Alaska, which can leverage its more nimble size to innovate. If a carrier like Alaska can survive and thrive more than three decades after the U.S. deregulated the airlines, it suggests a certain level of health, and a passenger-friendly equilibrium, for the eternally jumbled industry. That’s no small thing when the typical alternative to getting bigger, like a Delta or an American, is slashing service to keep costs low.

More than mere convenience is at stake. Consider Alaska’s work with the Federal Aviation Administration on a program meant to replace the current system for landing approaches—where planes descend in steps to lower altitudes before touching down—with a straighter path that saves time, uses less fuel and reduces carbon emissions. The system, called NextGen, is built around GPS technology. Delays have plagued NextGen’s rollout nationwide, but Alaska has been testing the concept. Not everyone is convinced—critics have argued that NextGen is unnecessary and expensive—but Alaska claims a potential savings of over 100,000 barrels of oil a year, making it more green and saving some green too. That would have huge ramifications if the entire industry adopted it.

If nothing else, the battle for Seattle is a reminder of what flying was like for many customers before airlines systematically divided up many of the nation’s biggest airports into near monopoly, one-airline hubs. That fate may await Sea-Tac in the future. But for now, the flying public of the Northwest gets the benefits of the kind of old-fashioned regional competition the airline industry has done its best to eliminate. □



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**Phil Meador**  
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**Damian Mills**  
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Subaru South Blvd

**Billie Nimnicht III**  
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**Thomas "Tommy" Norris**  
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**Bob Penkhuis**  
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**Robert Rydell**  
Honda of Grand Forks

**Diane Sauer**  
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**Andrew Schlesinger**  
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**Dennis Sheets**  
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**John Symes**  
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**Craig Tilleman**  
Tilleman Motor Company

**John Uekawa**  
New City Nissan

**Mary Catherine Van Bortel**  
Van Bortel Motorcar Inc.

**Stephen W. Wade**  
Stephen Wade Toyota Scion

**Jenny Wegner**  
Wegner Auto Company

**Jeff Wood**  
Tom Wood Lexus

**Gregg Young**  
Gregg Young Chevrolet, Inc.

**John Zwiacher**  
Scoggin-Dickey Chevrolet  
Buick Subaru

*Driven by what we love.*

These 2016 TIME Dealer of the Year nominees have made improving their community and helping those in need a priority. From all of us at Ally, we congratulate them on their nomination. Their dedication to making a difference in the lives of others is encouraging as they work to better our world. Visit [AllyDealerHeroes.com](http://AllyDealerHeroes.com) to learn more about these nominees and how they are strengthening their communities.





(NADA), establishing the bright, shining car lot as a symbolic beacon of budget dollars to be appropriated to items including education, police and fire departments, infrastructure projects and beyond. The car dealership is a haven for employment and a tax base for local governments across the country.

Additionally, the franchised dealership network is one of countless small businesses that are often family-owned and -operated; 92% of them are privately owned, according to NADA. But beyond the jobs the auto dealer network provides, there are few industries that so directly contribute to economic growth. Mobility is crucial to job access, and affordable purchase terms are crucial to mobility.

As much as the auto industry contributes to growth, it also is reflective of growth. Case in point: New-car sales are highly correlated with housing starts (82% correlation), the Dow Jones Index (81% correlation) and the Consumer Confidence Index (76% correlation) according to a 2010 TrueCar study that looked at the correlation between new-vehicle sales and the economy's health.

As for the dealership jobs themselves, they offer possibilities for advancement beyond those in other industry sectors. A technician out of vocational school, for example, can eventually become a service manager at a car dealership—where the average salary package is

**NEW-CAR SALES ARE HIGHLY CORRELATED WITH HOUSING STARTS, THE DOW JONES INDEX AND THE CONSUMER CONFIDENCE INDEX. —2010 TRUECAR STUDY**

around \$53,000 per year (NADA, 2014).

The car dealership represents value to governments, employees—and also to the consumer.

### The Value Proposition

Recent reports by the nonprofit Phoenix Center for Advanced Legal & Economic Public Policy Studies reveal that when dealerships have to compete as fiercely as they do for business, consumers win.

And thanks to the franchised dealership model, consumers win on the price of a new car—due to competition between local dealerships—as well as the financing.

## Rising Through the Ranks

**NEW HAMPSHIRE AUTOMOTIVE DEALER ANDY CREWS** launched his career by getting his hands dirty. At 16, he worked in a local service station. He joined the Marine Corps as a mechanic after high school, finally training as an automotive technician at General Motors. But while he learned cars first, he also developed an eye for the business of cars, by working in dealerships around the country.

That commitment paid off when he was named president and CEO of AutoFair in Manchester, N.H.—a dealer group with seven stores and nearly 600 employees—and most recently when Crews was honored as the 2015 TIME Dealer of the Year. The 44-year-old was one of only 55 dealers of the 17,000 nationwide to earn a nomination for the award, which is sponsored by TIME in association with Ally Financial and in cooperation with the National Automobile Dealers Association.

Throughout his career, Crews

has been keenly aware of the importance of community involvement and outreach. He actively supports employees in the Guard and Reserve forces, his teams recently began donating auto sales proceeds to needy families at Thanksgiving, and he has worked with the mayor of Manchester to create the Make the Grade program, which seeks to motivate students to achieve through the chance to win a car. Not forgetting his own roots, Crews also works closely with New Hampshire's technical colleges to train students. "My hard work learning all the aspects of the business helped lead me to the position I now hold," he says. "But it was my work as a mechanic and technician that really got me on my way to a good career."





*Ford* MUSTANG



Go Further 



Dealerships frequently partner with financial institutions to offer purchase packages customized to the automotive market—as opposed to conventional bank loans that offer very little advantage. One such group, Ally Financial, also offers tools and resources to provide easier access to important account and credit information online, once the customer leaves the dealership. In recent months, Ally enhanced its Ally Auto Mobile Pay App for consumers with digital features and also offers online tools like Click-to-Chat and secure email to help manage their account.

Ally, which has been in business more than 90 years, also offers free online resources to help demystify the car buying process and arm consumers with the knowledge to make smart, well-informed decisions about spending and financial habits. Dealers can also post the company's popular tips for car buyers—available at [AllyWalletWise.com](http://AllyWalletWise.com)—on their websites or in their dealerships.

### **Dedicated to Community**

Car dealerships are uniquely prominent and easily recognizable in their communities. They're also beacons behind the scenes, thanks to their significant support of communities and charitable programs. According to a recent survey from NADA and Ally Financial, new-car dealers are increasing their level of giving to charitable causes, with more than 70% surveyed last year saying they planned to increase their charitable giving, up from 65% the previous year.

Their contributions are generous. Dealers surveyed donated or lent out approximately \$4.5 million worth of vehicles for charitable causes. Thousands donate time to the National Automobile Dealers Charitable Foundation, which supports schools, hospitals, emergency disaster relief, Canine Companions for Independence (including a program to help wounded veterans) and other community-based initiatives.

## ***“FRANCHISED NEW-CAR DEALERS ARE AMONG THE LARGEST SUPPORTERS OF COMMUNITY-BASED PROGRAMS IN TOWNS ACROSS THE COUNTRY.”***

—NADA PRESIDENT PETER WELCH

And dealers are giving cash as well: Nearly 50% of dealers gave more than \$25,000 to nonprofit and charitable causes in 2013, with 13% giving in excess of \$100,000.

“Franchised new-car dealers

are among the largest supporters of community-based programs and charitable organizations in most towns across the country,” says NADA President Peter Welch. “New-car dealers support their local communities in many ways—from creating well-paying jobs and generating significant revenue in taxes to providing other economic benefits.”

Ultimately, these efforts and the economic base supported by the dealer network go a long way toward strengthening local communities, and by extension the national economy. With that in mind, car buyers will do quite well by continuing to relish that whole new-car experience. It's better for us in more ways than you might think. ●





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# Time Off

'FOR MILLENNIALS, THE HUNGER GAMES IS STAR WARS.' —PAGE 120

## 2015 Holiday Preview Movies Music Books

Screen sisters Amy Poehler and Tina Fey • One final shot at *The Hunger Games* • A *Star Wars* cheat sheet • Michael B. Jordan revives *Rocky* • Oscar winner Eddie Redmayne is transformed • Michael Moore's European invasion • A big box of Amy Winehouse • The season's best art and design books





## Sisters introduces Tina Fey and Amy Poehler's semisecret sibling

By Joel Stein

PAULA PELL STOPS SHORT, grabs my shoulder and yells, completely serious, "Oh! My journal! Oh! Jesus Christ!"

We are about seven steps from the booth we just ate in. "Oh, I have it," she says, sighing with relief after finding the yellow spiral notebook secure in its leather cover. She wrote this diary when she was 13, long before she started reading it aloud late at night to entertain the staff of *Saturday Night Live*—and even longer before she turned it into the movie *Sisters* (Dec. 18), starring two women who over the past 14 years she has spent more time with than most real sisters do, Tina Fey and Amy Poehler.

"Tina heard that journal 50,000 times—she could quote from it," says Pell, 52. So when she thought about using the diary for a one-woman show and her agent suggested something more ambitious, Fey immediately offered to produce a film. It then became one of the easiest casting jobs in history.

For Pell's screenplay, the stars reversed the dynamic of their last movie together, 2008's *Baby Mama*. This time Fey plays wild older sister Kate, and Poehler's Maura (kind of sounds like "Paula") is the one who lends her money. When the siblings

find out that their parents are selling the Orlando house they grew up in, they fly back and throw one final rager.

The actors have been tight with Pell for so long—she started writing for *SNL* in 1995, Fey came on board two years later, and Poehler joined in 2001—that they already knew Pell's sister Patti as well as her parents and nieces, one of whom did hair for the film. "There's an old improv rule to already know each other when you start a scene," Fey says. Poehler adds, "We didn't have the usual dance you have to do at the beginning of any project."

Instead of being offended by Fey's portrayal of Kate, Patti was amused that an actor she'd known for so long was caricaturing her. "My sister laughed really hard when I showed her the money stuff," Pell says. "I'd always be loaning my sister money, knowing full well I wasn't going to get it back. But she had the kids, and that paid me back." "Yeah," Poehler adds, nodding sweetly. "It's not the same as money."

Sitting with Fey and Poehler, Pell is the loudest, funniest, least adult one. A product of suburban Orlando and a lesbian, she exudes sloppy bawdiness wrapped in tightly wound Southern ma-

ternal kindness. At *SNL*, she helped Will Ferrell and Cheri Oteri hone their Spartan-cheerleaders sketches, turned Debbie Downer into Rachel Dratch's most memorable character and crafted an absurdly optimistic version of Tony Bennett for Alec Baldwin to parody. Fey eventually became Pell's boss as head writer, and they became so close that Pell found her an apartment in the same Upper West Side building she lived in; when Fey moved out, Pell took her place. "We've known each other from the first day Tina came to *SNL*," Pell says. "Tina and I became fast friends, and I met Amy through Tina. I've witnessed them both having amazing children, whom I love and are excruciatingly cute."

In *Sisters*, Kate makes a fearful diary entry about getting pregnant in high school while Maura writes about how the new grit in her rock tumbler is really shining up an amethyst. This comes directly from the Pell siblings' actual diaries. When I page through Paula's yellow journal, I run across this: *For a person with a lasting cold & a cough, I feel great. I sure hope this mood of mine lasts forever. I love you God.*

Fey and Poehler also contributed slices of their

teen years. Their characters' childhood rooms, untouched since they moved out in the 1980s, are re-creations of the actors' own rooms, decorated with posters of Michael J. Fox, *Xanadu* and *Out of Africa*. Poehler says her muscle memory came right back when she put on the Jane Fonda workout tapes.

During the shoot, Pell felt free to blurt notes to her friends, often handing one of them a new joke on a Post-it note to see how the other would react. One day, she quietly walked into the set's fake bathroom, sat down on the toilet and started yelling at Fey. "She pulled down her pants and gave notes, pretending to go to the bathroom," remembers Ike Barinholtz, who plays Maura's love interest. "'Tina, make sure to get a take ... er! ... where ... uh! ... it's not too sentimental.'"

Used to ending *SNL* sketches with something big and silly that could be shot simply on a stage, Pell wrapped up the party scene by having them witness a giant sinkhole. What she didn't realize about movies was that if Universal Studios was going to build a real sinkhole, the characters were going to have to spend some time inside it. "Tina spent a

### TINA, AMY AND PAULA: SKETCHES, SITCOMS AND SISTERS



#### APPALACHIAN EMERGENCY ROOM

Pell came up with insane lines to fit Nettie's crazy shuffling walk



#### KOTEX CLASSIC

Pell's commercial parody had *SNL*'s women modeling "horrific female equipment"



#### LONELY TEACHER

Pell loved the notion of Fey's falling for "wildly different human" Justin Bieber



*Fey, Pell and Poehler have known one another since their Saturday Night Live days*

lot of time in that sinkhole,” Poehler recalls.

“Whatever the blue paint in the water was, it just melted a set of hair extensions—I had to throw them away,” says Fey. As they shot more of the scene, the actual house they built started to rot. “We shot all this stuff with James Brolin and Dianne Wiest as our parents, and we didn’t see them for weeks. Then they came back, and they were appalled,” says Poehler. “It’s a movie that smells as good as it looks.”

*Sisters* is just one part of a breakout year for Pell, who is developing a sitcom for HBO, has written another movie about sisters with Judd Apatow and is set to appear in two upcoming films. Mostly, though, she just wants to keep creating with people who are close to her, especially Fey and Poehler. “I’ve been on trips with them, had them slumber-party it during a blizzard at my house in the Hudson Valley. Tina and I took refuge with each other on 9/11,” she says. “When we shot the bathtub scene in *Sisters*, it was in the middle of the night. I walked in to them sitting in the tub, and I burst into tears. They are my family.” It takes a special kind of family to bathe together in their 40s. □



### 30 ROCK

Pell played Pete Hornberger’s wife Paula, who invites Liz Lemon “into our lovemaking”



### PARKS AND RECREATION

Pell was Tammy Zero, Ron Swanson’s hard-drinking, gun-crazy mom



### SISTERS

Fey immediately offered to produce Pell’s first film script; casting the movie was easy





As Katniss, Lawrence embodies a franchise tuned in to the current global disorder

## The Games were rigged. That's why they always felt so real

By John Anderson

HAVING BATTLED THEIR WAY THROUGH three previous *Hunger Games*, the rebel forces of Panem stand poised to assault the Capitol in *Mockingjay Part 2*. Katniss Everdeen prepares to notch her last arrow. Archvillain and genocidal maniac Coriolanus Snow takes to the airwaves. “Our enemies don’t share our values,” the president warns his people. “They have come to bury us.”

Sound familiar? Like its predecessors, the concluding chapter of *The Hunger Games* franchise, in theaters Nov. 20, is a mashup of past, present and future politics, warfare and provocative allusions. Is Donald Sutherland’s archvillain Snow echoing the post-9/11 George W.

Bush (“They hate our freedoms”)? Or the Cold War’s Nikita Khrushchev (“We will bury you”)? Is the uprising among the oppressed districts of Panem—whose children have traditionally slaughtered one another for the amusement of the country’s less-than-1%—an allusion to Occupy Wall Street? Or the slave rebellions of ancient Rome? (Or the Bernie Sanders campaign?) Was the original *Hunger Games* conceit, the choosing of “tributes” by lottery and their fight to the death in a public arena, an update of the Roman Colosseum? Or a send-up of *American Idol*?

As *Mockingjay Part 2* brings down the curtain on a lucrative quadrilogy—

\$2.3 billion to date—it’s worth noting how uncanny the series has been about marrying political urgency to historical reflection, never mind the pop-cultural glitz provided by Jennifer Lawrence, who has graduated from indie actress to Hollywood superstar, an object of worship even on archery websites. Principal photography on the three-year-old series—which, like fellow YA franchises *Twilight* and *Harry Potter*, has split its last novel into two films—was completed a year and a half ago. And yet, like each previous release, the last chapter of *The Hunger Games* seems to have its futuristic finger on the pulse of the national mood du jour and the global state of disorder.

Some of it has to be intentional; some of it couldn’t be. It’s difficult to watch the desperate hordes seeking refuge from the Capitol in *Mockingjay Part 2* and not think of the refugees of Syria, or to watch the brutalization of innocent civilians by armored authorities and not think of Tiananmen Square or Cairo or even Ferguson. We bring our own baggage to the movies. We always have.

So, no, Suzanne Collins didn’t have a crystal ball back in 2008, when she published the original *Hunger Games* (followed by *Catching Fire* and *Mockingjay*). But like many of her sci-fi predecessors, from H.G. Wells to William Gibson, she saw the writing on the wall and scrutinized it. Magnified it. Mythologized it. She had a sense of media present and of empires past. Her characters are Antonius, Cressida, Plutarch, Pollux. She looked at the public humiliation and inherent neofascism of reality TV, took the genre to its logical if extreme conclusion and imagined a spectacle whereby children would be fed to the figurative lions. And by which their country would be both pacified and terrified, via an entertainment medium based on public slaughter.

En route, she wove a parable that involved economic inequality, voter suppression, the surveillance state, militarized police and governance by fear—never mind posttraumatic stress disorder and perpetual war.

That’s entertainment?

Yes. And it seems pretty healthy, all things considered. Millennials are presumed to have their eyes glued to their





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iPhones and their heads swimming in Instagrams. But their fervor for *The Hunger Games* reflects well on their political savvy and appreciation for metaphor. No, they are not alone as a demographic in their ardor for Katniss, Peeta (Josh Hutcherson), Gale (Liam Hemsworth) and Johanna (Jena Malone) or even the dubious feelings they harbor for rebel leader Alma Coin (Julianne Moore) and her Cheshire Cat–like aide de camp, Plutarch Heavensbee (the late Philip Seymour Hoffman, whose every appearance is like an arrow to the heart).

But for millennials, *The Hunger Games* is *Star Wars*—except that instead of a mashup of *Flash Gordon*, Joseph Campbell and the New Testament, what they've gotten is an often unpleasant allegory for the world they really live in. You can call *Hunger Games* escapist entertainment, but there's been little escape from the hard realities that the series puts in your face.

*Mockingjay Part 2* is a worthy conclusion to a series that's meant so much to so many, made stars of its younger players and allowed more-established performers to shamelessly ham it up: Elizabeth Banks, for instance, as fashion disaster Effie Trinket, and Stanley Tucci, whose bouffant TV propagandist Caesar Flickerman could be the offspring of Paul Shaffer and Wendy Williams. Their costuming is the most flamboyant example of work by designers Kurt and Bart—no last names, please—who bring a sense of style even to the lowly proles of the outlying Districts. (They remain true to the spirit of their predecessors, Judianna Makovsky and Trish Summerville, who worked on the first and second films respectively.) Elsewhere, the franchise's quality can be credited to a consistent team of filmmakers: Collins wrote the adapted screenplays, and James Newton Howard provided the moody scores.

Spearheading the epic have been producers Jon Kilik and Nina Jacobson, who weren't afraid to tinker with the formula. Considering the grittiness of the landscapes and the Emerald City quality of the Capitol, the films have sustained

a remarkably elegant look since *Catching Fire*, which is when cinematographer Jo Willems got behind the camera and Francis Lawrence took over the direction from the series' originator, Gary Ross. Viewed now, back to back, the change between the first film and the second couldn't be more dramatic: Ross, in league with Clint Eastwood's long-time DP Tom Stern, had a visual concept based on fear—the camera darted here and there; the focus was always catching up with the point of view; the sensibility seemed to be that of a wary, wounded animal. It was smart and experimental. The departure of Ross seemed abrupt, even shocking. But the Lawrence-Willems approach was more accessible

and commercial and, given the complexity of the material, probably necessary.

As cinema, *Part 2* recovers successfully from *Mockingjay Part 1*, which was, frankly, an enormous drag: like those penultimate episodes of *Twilight* and *Potter*, it was all about

setup, anticipation and reveling in its own gravity.

And maybe it's a minor complaint, but why would Katniss, whose aversion to sentimentality helped make her a great heroine, put so many other people's lives on the line to save Peeta, one of the more annoying male protagonists in recent movie history? Refusing to do her bit for the rebel leadership until they rescued her old *Hunger Games* partner seemed utterly out of character: Katniss has always sacrificed love for the cause—the whole series, lest we forget, starts with her sacrificing herself.

It was war, after all. And Katniss, for all her mythic/romantic qualities, has always been a realist. She knew that the Games were rigged, that the powers that be could change the rules at any time and that only tenacity, change and luck would bring her victory. She's a character her most fervid audience can relate to. They too have grown up with never-ending war and a future that offers uncertainty and insecurity. The difference, at the movies, is that there's an ending. □

## ROMANCE

### Carol creates chemistry on- and offscreen

ASK CATE BLANCHETT AND Rooney Mara what it was like to work together so intimately on their new film and they exchange a meaningful glance. "It was awful," Blanchett jokes. "I measured our trailers—hers was 5½ inches longer." "We had to be separated," Mara chimes in. This seems unlikely, given how their chemistry radiates from the screen in Todd Haynes' film *Carol*, out Nov. 20. It's a long-overdue adaptation of Patricia Highsmith's 1952 novel *The Price of Salt*, which tells the story of a tryst between a charismatic housewife (Blanchett) and a meek shopgirl (Mara). At turns erotic and wrenching, their tender performances have earned rave reviews and—for Mara—the Best Actress prize at the Cannes Film Festival. In an unusually strong year for LGBT representation in cinema, both actors insist *Carol* is a love story without a social agenda—though Blanchett decries the "lazy, entrenched" sexism of big-budget moviemaking. As their characters fell in love onscreen, the stars developed a fond rapport. As Mara

says with a smile, "Our relationship wasn't really something that we had to work on." Yes, we noticed.

—SAM LANSKY

Blanchett and Mara give nuanced performances as lovers in *Carol*





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## STAR WARS

# Heart of Dathness

Prepare for the plot twists of *Star Wars: The Force Awakens* (Dec. 18) by brushing up on Anakin Skywalker's story arc

## THE PHANTOM MENACE

Jedi Master Qui-Gon Jinn discovers Anakin Skywalker as a slave on Tatooine.



Already strong in the force, Anakin wins his freedom in a pod race.



Qui-Gon wants to train Anakin as a Jedi; Jedi leaders worry he might be evil—prescient!

FORCEMETER  
LIGHT  
SIDE  
DARK  
SIDE



Senator Palpatine makes a power move to take control of the Galactic Republic.

Qui-Gon, killed by Darth Maul, makes a dying wish: train Anakin as a Jedi.



## BEST BATTLE

Anakin's space skirmish takes a back seat to an epic lightsaber duel between Qui-Gon and the evil Darth Maul.

BATTLE  
RATING

8

U.S. BOX OFFICE

\$707 million



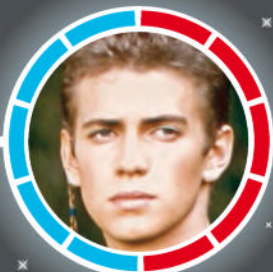
## ATTACK OF THE CLONES

Qui-Gon's student, Obi-Wan Kenobi, takes Anakin as his apprentice.



Anakin is assigned to protect Senator Padmé Amidala; the two soon fall in love.

Anakin is tortured with visions of his mother's death; he returns to Tatooine.



After learning a group of Tusken Raiders killed his mother, Anakin slaughters their village.



Anakin marries Padmé in secret, as romantic love is forbidden to Jedi.



## BEST BATTLE

A lightsaber duel with Count Dooku costs Anakin his arm. It's replaced with a robotic limb—foreshadowing!

BATTLE  
RATING

5

U.S. BOX OFFICE

\$434 million



## REVENGE OF THE SITH

Palpatine convinces Anakin to kill a defenseless Dooku.



Anakin has more visions of death. This time, it's Padmé, who's now pregnant.

Palpatine, really an evil Sith Lord, recruits Anakin by promising him the power to cheat death.



Anakin helps Palpatine kill most of the Jedi, even children.



Palpatine tells Anakin, now Darth Vader, he is responsible for Padmé's death.

Padmé gives birth to twins—Luke and Leia—then dies.

## BEST BATTLE

A fiery duel with Obi-Wan leaves Anakin burned and dismembered, explaining his iconic and ominous costume.

BATTLE  
RATING

10

U.S. BOX OFFICE

\$495 million



## A NEW HOPE

Vader captures Princess Leia Organa, now a Rebel, on her mission to share Death Star plans via R2-D2.



Those plans get to Luke on Tatooine, who receives Anakin's lightsaber from Obi-Wan

Luke sets out to become a Jedi; he and Obi-Wan travel to Alderaan with Han Solo.



The Death Star destroys Alderaan, causing "a great disturbance in the Force."

On the Death Star, Obi-Wan is killed by Vader in a lightsaber duel.



As Rebels attack the Death Star, Vader is sidelined by Han.

### BEST BATTLE

The rematch between Vader and Obi-Wan offers Anakin a chance at revenge, but it's heavy on dialogue and short on action.

BATTLE RATING

3

U.S. BOX OFFICE

\$1.2 billion



## THE EMPIRE STRIKES BACK

Vader's forces attack the Rebel base on the icy planet Hoth.



Luke travels to Dagobah to meet Jedi Master Yoda; Han and others escape to Cloud City.

Han walks into a trap set by Vader, who freezes him in carbonite.



Against Yoda's advice, Luke cuts short his training to save his friends.



Vader reveals himself to Luke: "I am your father."

Luke denies Vader's claim, but searches his feelings and knows it to be true.

### BEST BATTLE

In Cloud City, Vader bests Luke in a shadowy lightsaber showdown the son simply isn't ready for, costing him a hand.

BATTLE RATING

9

U.S. BOX OFFICE

\$658 million



## RETURN OF THE JEDI

Luke returns to Dagobah, where Yoda confirms Vader is his father, then dies.



Obi-Wan's ghost tells Luke to confront Vader in battle once more.

Believing his father will return to the Light Side of the Force, Luke surrenders to the Empire.



On the second Death Star, Emperor Palpatine entices Luke to join him.

Luke refuses, so Palpatine attacks him; Vader kills the Emperor.

A redeemed Anakin asks Luke to remove his helmet so he can see his son with his own eyes.

### BEST BATTLE

Palpatine nearly kills Luke with a barrage of cracking violet lightning, inspiring Vader to rediscover the good inside him.

BATTLE RATING

6

U.S. BOX OFFICE

\$675 million







## Michael B. Jordan punches his way into a new weight class with *Creed*

By **Eliana Dockterman**

*Jordan plays Apollo Creed's son Adonis, who seeks out Rocky Balboa in hopes that his late father's rival will train him*



MICHAEL B. JORDAN CAN relate to what his character Adonis faces in *Creed*, the seventh chapter of the *Rocky* saga, out Nov. 25. Son of the late Apollo Creed, Rocky Balboa's old boxing rival, Adonis struggles with whether to use his father's name as he tries to forge his own legacy, training for the light-heavyweight championship under—who else?—Sylvester Stallone as Balboa himself. Jordan has similarly endeavored to emerge from the shadow of Michael Jordan, the iconic basketball player—though the two are not related. The actor spent his childhood being taunted on the court and off.

"I hated my name. I wanted to change it," Jordan, 28, says. "But it gave me a healthy chip on my shoulder. One of my goals is when people hear 'Michael Jordan,' it's not clear which one's being talked about—because I can't be the guy who was *almost* the famous Michael Jordan."

As if the name weren't pressure enough, the actor's middle initial stands for Bakari, which means "of noble promise" in Swahili. But that name may prove prescient now that Jordan stands on the precipice of stardom. He's earned raves for his roles in critically acclaimed TV dramas *The Wire* and *Friday Night Lights*, as well as director Ryan Coogler's award-winning indie *Fruitvale Station*—the true story of Oscar Grant III, an unarmed black man killed by a white officer in Oakland, Calif.

Coogler tapped Jordan again for *Creed*, the actor's

first solo lead in a mainstream film—and his big shot at the title. “It’d be foolish of me not to realize that there’s this pressure from everybody. And I feel that, but I also welcome it,” he says, breaking into a smile.

Coogler, 29, wrote the story when his *Rocky*-loving father got sick, in the hope that it would motivate his dad to get better. (It did.) He pitched Stallone, but Sly was hesitant. So Coogler turned to his first feature film, *Fruitvale Station*, where he and Jordan immediately clicked: both grew up athletes with close-knit families in down-trodden cities—Oakland for Coogler and Newark, N.J., for Jordan. “We talk every day,” says Jordan. “I might wake up at 4 o’clock in the morning and have an idea, and I’ll just call him. His fiancée will pick up, and I’m like, ‘I’m sorry, I’m sorry, but I’ve gotta talk to Ryan.’”

Only when Stallone saw *Fruitvale*, a year after Coogler’s first pitch, did he grant the younger filmmaker full autonomy over the franchise. Coogler reframed the story from the perspective of a black millennial—including a new neighborhood in Philadelphia, hip-hop music and a love interest (*Dear White People*’s Tessa Thompson) who has her own career ambitions, as a musician. “For our parents, it was about stable jobs, surviving,” Coogler says. “For us, it’s about passion.” Rocky’s always pulled into the ring. Adonis can’t be held back from it.

That’s not to say Stallone wasn’t involved. “During a



Stallone passes the torch to Jordan after writing and starring in six *Rocky* films

fight scene, I hear this noise from the corner,” says Jordan. “I go, ‘What’s up, Sly?’ And Stallone goes, ‘You’ve got to take the hit.’ I was like, ‘For real?’ But he knew that to get the shot, I had to actually take a punch. So I did.”

Jordan was willing to do just about anything to make sure the film was a winner. He had already made a bid for stardom earlier this year as the Human Torch in the superhero movie *Fantastic Four*. But despite a promising young cast that included *Whiplash*’s Miles Teller and *House of Cards*’ Kate Mara, the movie flopped when it premiered in August, the second-worst-performing film based on a Marvel comic in the past decade. When asked about it, Jordan mock screams. “It was my first real, you know, failure,” he says. “But, man, it gave me such motivation to make sure that never happens again.”

For *Creed*, he spent a year bulking up, resigning himself to a diet of chicken breast, steamed broccoli and brown rice. For some of his training sessions, he visited the gyms of boxing legends like Floyd Mayweather Jr. It worked. Under his blue long-sleeved shirt, Jordan looks as if he’s wearing a muscle suit. “I’m going to try to keep this as long as I can,” he says, laughing as he gestures at his torso. “Even in a role that doesn’t call for it—giving a cross-examination, unbuttoning a few buttons, and I’m just, like, chiseled.”

Behind his jovial exterior, Jordan is unabashedly ambitious. He carefully studies the work of actors he

**‘One of my goals is when people hear “Michael Jordan,” it’s not clear which one’s being talked about.’**

ACTOR MICHAEL B. JORDAN

admires: Leonardo DiCaprio, Denzel Washington, Edward Norton. “I look at their résumés—when did they do this blockbuster, that indie? There’s a loose science to it, a basic template you can tailor to yourself,” he says. “I always thought about what I would say when someone finally asked me, ‘What do you want to do?’ Tom Cruise, he’s doing it. People all over the world come out to see art he’s made. That’s my aspiration.”

And not getting stuck in clichéd roles. After playing a “troubled black youth” in procedurals like *CSI* and being killed in almost every one of his early films, Jordan instructed his agents to look for roles written for white men—or in the case of *Creed* and his next movie, *Just Mercy*, in which he plays civil rights lawyer Bryan Stevenson, black men who don’t get shot.

“*Fruitvale* came at a time when it was really important to African-American people. But I was like, Whoa, I’m not just about this,” Jordan says. “I want to play the characters everybody wants to play. Why limit myself to just one type of role?”

That’s why he’ll team up with Coogler again for *Wrong Answer*, about a school testing scandal in Atlanta, which may further his quest to earn his own place in the firmament. “In Newark, the New York skyline is right there, and I think that visual is important,” he says. “I always found myself on one side looking at the other, thinking, I’ve got to get over there.”





## The Danish Girl reflects on love's power to transform

By Eliza Berman

THE DANISH GIRL SEEMS LIKE AN UNUSUALLY timely movie. Director Tom Hooper's film, opening Nov. 27, tells the story of Lili Elbe, who in 1930 underwent the first well-documented gender-reassignment surgery and transitioned into a woman. Stories about transgender people have been received rapturously over the past two years: from *Orange Is the New Black*'s story line about a transgender prison inmate to *Transparent*'s tale of a father in transition to Caitlyn Jenner's splashy *Vanity Fair* cover and docuseries *I Am Cait*. This movie's account of a little-known pioneer seems tailor-made for audiences—and critics—in 2015.

But when the script first landed in Hooper's lap back in 2008, he says, it was far from commercial, and he was an unlikely candidate to make it so. At the time, he had just one feature film to his name. That changed after Hooper won an Academy Award for directing 2010's *The King's Speech* and achieved box-office success with his 2012 adaptation of *Les Misérables*. "Now people think it's an obvious choice for me to have made," he says. "It speaks to the fact that there's been a revolution in the acceptance of trans stories."

*The Danish Girl* is a thinly fictionalized retelling of the life of Elbe, a Danish painter who lived

▲  
Eddie Redmayne  
as transgender  
pioneer Lili  
Elbe, who had  
reassignment  
surgery in 1930

the first four decades of her life as a man named Einar Wegener. As played by Eddie Redmayne—fresh off last year's Best Actor win at the Oscars for his role as Stephen Hawking in *The Theory of Everything*—Lili, while living as Einar, begins to sense that her starched collars and tailored suits are a disguise for her true identity as a woman. "Because there were no predecessors, there was no vocabulary for her to be able to negotiate what she was going through," Redmayne says. Instead, the medical establishment pathologized her feelings—which the real Elbe described in her memoirs as the sensation of two people fighting for one body—as perverted and delusional. But with the support of her wife Gerda, played by the Swedish actor Alicia Vikander, she begins to live authentically.

Hooper was transfixed by the script—adapted by Lucinda Coxon from David Ebershoff's 2000 novel of the same name—which, the director says, was the first in his career to bring him to tears. Tempting as it may be to label the movie a transgender story, it's as much a portrait of a marriage as of an unwitting trailblazer. Gerda is a working painter who has little regard for gender boundaries—it was rare for a woman at the time to work, let alone as an esteemed artist—and she's a critical part of Lili's journey. Through her eyes, the audience witnesses the blossoming of Lili, from a playful stand-in for one of Gerda's portrait models into a fully realized identity, both inside and out.

"I believe she could see something even before

Lili was able to dare confront it herself,” says Vikander, whose portrayal of Gerda is generating Oscar buzz, capping off a breakout year in which she’s played everything from a humanoid robot in *Ex Machina* to the pacifist Vera Brittain in *Testament of Youth*. Gerda, she says, was “able to see [that] above anything, the person that you love needs to be able to find a way to love themself.”

To prepare for their roles, the actors relied on interviews with transgender women and their partners, who, Redmayne says, told them without exception, “There is no question I won’t answer.” Redmayne recalls a woman named Cadence Valentine, who spoke about the fundamental need to simply be herself. “This term, *to be yourself*, feels like a basic human right,” Redmayne says, “yet what trans people have to battle to be themselves seems so extreme.” Valentine’s journey was in many ways enabled, like Lili’s, by “how deep her partner’s pool of empathy was.”

Vikander’s conversations with partners whose loved ones have transitioned did not yield any sweeping generalizations—“Every single story is extremely different,” she says—but she did hear one phrase so often from the partners of trans people that it became a sort of silent mantra for her Gerda: “I was transitioning too.”

The fact that Redmayne had to undergo an education at all was cause for criticism from some members of the transgender community, who would have preferred to see a trans actor cast as Lili. (Before Redmayne, Nicole Kidman was attached to the role.) It’s a frustration Redmayne readily acknowledges. “There has been a huge amount of cisgender success on the back of trans stories,” he concedes, using a recently coined term that describes people who identify with the gender they were assigned at birth—in other words, people who are *not* transgender. But he hopes the discussion will lead to the casting of more transgender actors in not only trans but cisgender roles, as transgender actor Rebecca Root does in *The Danish Girl*, playing a female nurse.

In that sense, timeliness has its challenges. Telling Elbe’s story in the politically charged climate of 2015 brought with it a level of scrutiny that screenwriter Coxon says “simply wasn’t there” a decade ago. But that freedom allowed her to avoid the entanglements of identity politics and keep her focus on Lili and Gerda. As she explains, “It’s about these two women of such rare vision and courage, who have this extraordinary love story. I’ve never thought of it as ‘the transgender project.’” And as transgender stories are seen more frequently than ever before, it doesn’t have to be. In *The Danish Girl*, Lili doesn’t have to be an icon—she’s just a person, caught up in a love story as universal as its circumstances are specific. □

## DOCUMENTARY

### A funny thing happened on the way to socialism

“I HOPE THIS MOVIE GETS YOU SO pissed off that you get active,” said Susan Sarandon, introducing a recent screening of *Where to Invade Next*, the latest documentary by America’s favorite loud leftist lensman, Michael Moore. Despite the bellicose overtones of the title, the movie is more a jolly cherry-picking expedition than an act of aggression, as Moore shuffles through foreign democracies in hopes of annexing their social and economic policies.

Nobody can make a dose of civic B vitamins taste like a hit of Juicy Fruit as deftly as Moore, and many usually deadly discussions about worker-management relations, school nutrition and humane incarceration are spiced up with witty asides. Moore marvels at the length of Italian vacations: “You’re having more sex, and because of that you are more productive!” he tells one couple. He “invades” France to claim the idea of a delicious locavore school lunch, while chirping, “As usual the French offered little resistance.” And he illustrates the luxe benefits afforded German workers with a full-frontal shot of burly burghers leaping naked into a Jacuzzi—for which the MPAA gave the movie an R rating.

That kind of cheap provocation of authority is classic Moore, and whether viewers find it winningly cheeky or gratingly pompous might be dictated by their political leanings. But *Invade* is a departure from such previous Moore films as *Roger & Me* and *Sicko* in that there are no mean CEOs or heartless politicians for the director to hound. “I didn’t shoot a single frame of film in the U.S.,” Moore said after the screening. “The idea was to show us *us* by going to other countries.”

Perhaps anticipating the inevitable invitation to move to a nation he finds more amenable, *Invade* points out that most of the policies Moore wants to loot were originally American ideas. “This film shouldn’t make you want to leave,” he said. “It should make you want to stay and make this country work.”

—BELINDA LUSCOMBE



#### MOORE'S PLUNDER

##### Italy

Months of paid maternity and paternity leave

##### France

Gourmet school lunches

##### Finland

No school testing or homework

##### Slovenia

Free college for all, even foreigners

##### Germany

A 36-hour workweek

##### Portugal

Personal use of drugs no longer criminalized

##### Tunisia

Government-funded abortions

##### Iceland

Prosecution of bankers responsible for financial meltdown





Smith's neuropathologist is demonized by the NFL

## DRAMA

### A film that hits, but doesn't sack, the NFL

GIVE *CONCUSSION*, THE TRUE-TO-LIFE STORY about the NFL's tragic fumbling of its head-trauma crisis, credit for surprising the viewer. Turns out that a movie featuring pretty dry stuff—brain proteins, medical journals, microscopes—can have some terrifying scenes. That's because the filmmakers include portrayals of the actual victims of CTE (chronic traumatic encephalopathy), a devastating neurological disease with links to head collisions in football. At one point ex-Pittsburgh Steeler Justin Strzelczyk (played by Matthew Wilgig) says he's hearing voices and threatens to kill his wife. Their two kids huddle in a corner, crying. He leaves; then we see his car, driving against traffic, explode after colliding with a tanker.

The point is clear: this can be the price of playing football. Still, the NFL catches something of a break in *Concussion*, which hits theaters on Dec. 25. The descent of players like Hall of Famer Mike Webster, who ends up sleeping in his car and supergluing his teeth together, gets relatively little screen time. A fuller arc of these football lives would have created a more devastating movie: they went from Sunday glory to a very special kind of hell. Instead, we get a Will Smith vehicle, though one that's earning him some Oscar buzz. Smith plays Dr. Bennet Omalu, the Nigeria-born neuropathologist who discovers CTE in football players. The film's bogeyman, the NFL, tries to discredit Omalu as a quack. The racial overtones are clear: Who's this African guy mucking with America's passion?

The mere existence of this movie speaks to the years of NFL obstinacy. But while statistics say fewer kids play football, the league remains a moneymaking machine. It still, as one character says, owns a day of the week, the one that used to belong to the church. No movie will change that anytime soon. —SEAN GREGORY

## QUICK TALK

### Charlotte Rampling

The English actor, 69, is earning rave reviews and Oscar buzz for her new movie, *45 Years*, out on Dec. 23. Rampling plays a devoted wife living in the English countryside whose quiet marriage is upended by a revelation from long ago.

**There's a lot of awards-season chatter for your performance in this film. Do you pay attention to it?** When they make a huge noise about it and they're talking about you, you can't not feel intrigued by it. *What, me?* It's never been on my menu at all—I've won European prizes, but not here in America. It would be fascinating if it was for a film like this.

**You've appeared in films for 50 years, in everything from *Georgy Girl* to *The Night Porter* to Woody Allen's *Stardust Memories*, yet you've tended to avoid big studio blockbusters. Why?** Even if it wasn't good for my career or my bank balance, I felt that I needed to make films that suited me as a person, not just as a performer. There had to be a coherence somewhere.

**What doesn't appeal to you about Hollywood?** It's a style of life, isn't it? It's the nature of who you are. I can't ask anyone to do things for me—I'd rather almost not do it. I like to wait and be invited to dance. I'm an old-fashioned girl.

**How would you describe the kinds of films you're drawn to?** Films that come in quietly and actually do something to you. You could read them and think there's not much story there, but within that "not much story," a hell of a lot actually goes on. The director wants to find out what goes on in between.

**How was shooting a sex scene with your co-star Tom Courtenay?** Those [scenes]—I always step right away from them. I would never conceive of having someone watch me while I'm in that kind of situation in my life. I don't even go there. So you just do it—and you can do that completely mechanically. —SAM LANSKY

## ON MY RADAR

**ME AND EARL AND THE DYING GIRL**

*'I loved it. These kinds of films—tiny films! I thought he got that story. No sentimentality at all—just feeling.'*



CONCUSSION: COLUMBIA PICTURES; RAMPLING: ANGELA WEISS—GETTY IMAGES

## EVERYTHING ELSE

# The holiday movie matrix

Looking for a good laugh, a prestige pic, something the kids will love? This handy guide to 15 more films will point you in the right direction

By Isaac Guzmán

### Family Friendly



#### Daddy's Home

Will Ferrell's stepdad takes on Mark Wahlberg's ne'er-do-well biological pop. (Dec. 25)



#### The Good Dinosaur

Pixar imagines a world in which the dinos never died. One of them adopts a boy named Spot. (Nov. 25)



#### In the Heart of the Sea

Ron Howard directs a seafaring epic about the doomed whaling ship *Essex*, which inspired *Moby-Dick*. (Dec. 11)



#### Point Break

The over-the-top remake adds motocross, wingsuits and snowboarding to surfing, skydiving and bank robbery. (Dec. 25)

### Crowd Pleaser

#### Joy

Directed by David O. Russell, Jennifer Lawrence plays the real-life woman who invented the "Miracle Mop." (Dec. 25)

#### The Emperor's New Clothes

Russell Brand jousts at the upper crust in a quasi-documentary about income inequality. (Dec. 16)

#### Janis: Little Girl Blue

This doc looks at rock's most soulful, tragic sparrow. (Nov. 27)

#### Chi-Raq

Spike Lee turns the ancient Greek comedy *Lysistrata* into a meditation on black-on-black violence. (Dec. 4)

### Adults only



#### Anomalisa

Writer-director Charlie Kaufman meditates on the nature of love and individuality with puppets à la *Team America: World Police*. (Dec. 30)



#### The Revenant

Alejandro González Iñárritu (*Birdman*) directs Leonardo DiCaprio in a Western revenge thriller. (Dec. 25)



#### Hitchcock/Truffaut

Top filmmakers share their love for the French director's influential book, *Cinema According to Hitchcock*. (Dec. 2)



#### The Hateful Eight

Quentin Tarantino's western traps an octet of badasses in a haberdashery during a blizzard. Mayhem ensues. (Dec. 25)



#### The Big Short

The housing bubble of the aughts gets star treatment from Christian Bale, Steve Carrell, Brad Pitt and Ryan Gosling. (Dec. 11)



#### Macbeth

Michael Fassbender and Marion Cotillard grapple with an entirely different kind of spot. (Dec. 4)



#### Youth

Michael Caine and Harvey Keitel reflect on life's big questions in a film by Paolo Sorrentino (*The Great Beauty*). (Dec. 4)

THE GOOD DINOSAUR: DISNEY/PIXAR; IN THE HEART OF THE SEA: POINT BREAK: WARNER BROS.; THE EMPEROR'S NEW CLOTHES: THE WEINSTEIN CO.; JOY: YOUTH: THE REVENANT: 20TH CENTURY FOX; ANOMALISA: THE BIG SHORT: DADDY'S HOME: PARAMOUNT





# Rock the halls: a gift guide for the superfan in your life

By Nolan Feeney

HOW DO YOU PERSUADE MUSIC FANS TO BUY physical albums in the age of streaming and digital downloads? Try amping up the sensory experience. The arrival of the holiday season means a new slew of box sets that offer more than previously unreleased tunes. For listeners who remember spending hours

poring over liner notes, these sets also contain coffee-table books, live DVDs, colorful posters and a few oddball collectibles—a new Queen box set, described below, includes replicas of the balloons dropped on the crowd at a concert in 1975—to keep your eyes and hands as busy as your ears.

## NEKO CASE

*Truckdriver, Gladiator, Mule*

With this just-released set, the alt-country songstress and member of indie-rock group the New Pornographers assembles on vinyl each of her live and studio albums, some of which have been out of print for years. **(\$200)**

## A TRIBE CALLED QUEST

*People's Instinctive ... 45 Box*

The influential hip-hop group, which recently reunited on *The Tonight Show* after playing some “final” shows in 2013, rereleases its 1990 debut album as a set of vinyl 45s, available in early December. **(\$75)**

## QUEEN

*A Night at the Odeon: Hammersmith 1975*

Relive the band's 1975 Christmas Eve show in London, originally broadcast live on the BBC, with a batch of official recordings and tour-memorabilia reproductions, available Nov. 20. **(\$130)**

## BRUCE SPRINGSTEEN

*The Ties That Bind: The River Collection*

The Boss marks the 35th anniversary of *The River* with unreleased material and live footage. The set, out Dec. 4, includes a documentary about the album's creation that will also air on HBO on Nov. 27. **(\$108)**

## AMY WINEHOUSE

*The Collection*

Though the British soul singer released only two studio albums before her untimely death in 2011, this eight-LP vinyl box set, out Dec. 11, rounds out her canon with live recordings and rarities. **(\$125)**

## GRATEFUL DEAD

*Fare Thee Well Complete Box July 3, 4 & 5 2015*

Deadheads have been swapping bootleg live recordings for decades, but 12 CDs (and several more DVDs/Blu-ray discs) out Nov. 20 preserve the surviving members' farewell shows. **(\$175–\$190)**

## STOCKING STUFFERS



### SHARON JONES & THE DAP-KINGS

*It's a Holiday Soul Party*

Christmas and Hanukkah have never been funkier than with the soul group's festive mix of originals and classic songs, out now.



### ENYA

*Dark Sky Island*

The brightest star in new-age music is as hypnotic as ever on her first studio album in seven years, out Nov. 20.



### COLDPLAY

*A Head Full of Dreams*

The British band's seventh LP, due Dec. 4, features guest spots from Beyoncé and Swedish singer Tove Lo.



### KYLIE MINOGUE

*Kylie Christmas*

The Aussie diva just dropped her first Christmas album, which features collaborations with Iggy Pop and James Corden.





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## Aspirational meets enthusiastic in coffee-table books for the holidays

By Sarah Begley

COFFEE-TABLE BOOKS MUST, BY DEFINITION, BE VISUALLY appealing. But the best ones are also full of substance, engaging the mind while delighting the eye. This season's crop of releases doesn't disappoint, with subject matter ranging from the simply pretty (a master class on women's footwear) to the provocative (reflections on faith in contemporary art). In between, there's plenty to learn from, like a visual guide to the iconography of contemporary logo design and a photo collection of wooden buildings that offer lessons on sustainable architecture. All make good company for an idle afternoon.

1

### THE ART OF FLYING

Josh Condon

Air travel may not be as glamorous as it used to be, but the good old days live on in art and photography. From charming vintage Pan Am uniforms to sleek first-class cabins, this makes for top-notch armchair traveling.

2

### SHOE

Olivier Dupon

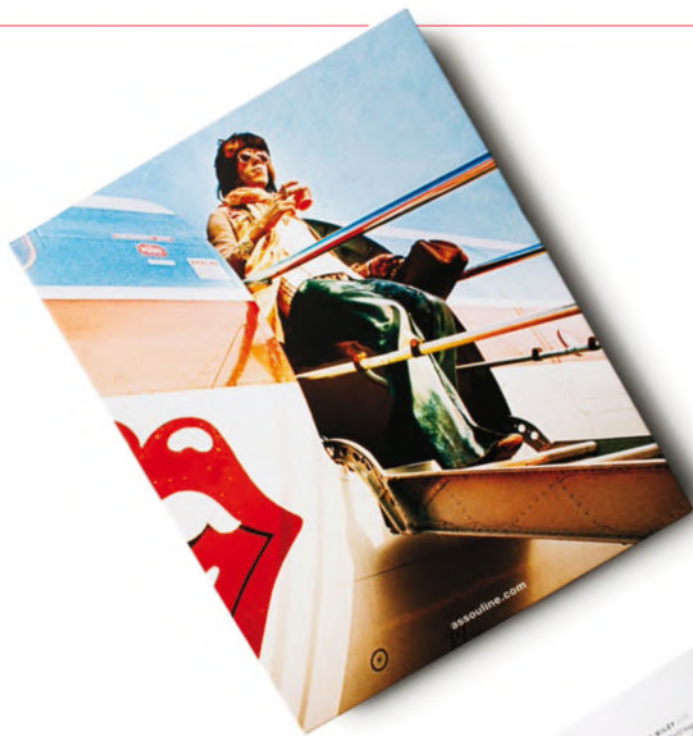
This guide to contemporary masters of footwear design showcases an international offering of fanciful shoes, from rubber platforms and fuzzy sandals to embroidered booties and LED-illuminated pumps.

3

### ART & RELIGION IN THE 21ST CENTURY

Aaron Rosen

Rosen explores faith in contemporary art, from Kehinde Wiley's portrayal of Israelis living on the margins to provocative updates on the Last Supper.



1



2



3





#### 4 LOGO MODERNISM

Jens Müller

Few designs are more universally recognizable than the logos of our favorite international brands. In this guide to corporate graphic design, icons are explained and categorized by shape and typography.

#### 5 100 CONTEMPORARY WOOD BUILDINGS

Philip Jodidio

From a functional tree house to inspired restaurants, this collection instructs on the ecology of wooden construction—with plenty of eye candy for architecture enthusiasts.

#### 6 THE HIGH LINE

James Corner Field Operations, Diller Scofidio & Renfro

A guide to the rebirth of New York City's High Line, this book shows the formerly derelict site's makeover into an alluring community space and tourist attraction.



ESSAY

# The hardest question: explaining the Paris attacks to my child

By Vivienne Walt/Paris

HOW TO EXPLAIN THE INEXPLICABLE? “MAMA, WERE KIDS killed?” That question came two days after the devastating terrorist attacks in Paris killed 129 people, when I finally sat down to dinner with one Paris resident I had seen almost nothing of since the Nov. 13 assault on our city: my own 9-year-old son. Having asked so many questions of so many people since that Friday—on the streets, at the sites of the attacks, outside Paris’ morgue—I was stumped. It was a detail I had not gotten around to asking about.

As the city struggled to understand how the attacks might transform their lives, thousands of Parisians were trying to put questions into words: the children. For days they watched silently, from waist height, witnessing an outpouring of shocked emotions and actions from the adults.

But as the adults returned to work and kids went back to school, teachers braced for doubts and impossible questions. They wondered how to address them—if there were answers that would make sense to a generation born after 9/11, in a benign, gentle city where until recently terrorism had been relatively foreign and remote.

On the night before classes resumed, an email popped into my inbox from the directors of my child’s school: “More than ever in the face of this violence and barbarity it is essential to lend an ear to our children, to play the role of educator and to discuss the attacks and answer their questions,” said the letter, which described the killings as a “savage” attack on “our city, our country, the symbols and values of our Republic.”

Then they advised us parents how to counsel our children. “While they are overwhelmed by legitimate emotion, heightened by the press and social media, more than ever they need adults who are calm and attentive to allow them to overcome their fears,” the school directors wrote, adding that they would begin the first day by inviting kids to share their thoughts about the terrorist attacks.

**AFTER THE DEADLY ASSAULT** on the newspaper *Charlie Hebdo* last January, the school wrote a similar letter to parents and the building featured a display of newspapers with JE SUIS CHARLIE covers. This month, for the second time in a year, there was a moment of silence to honor the dead.

Beyond that, there is little comparison this time around. In January it had been relatively simple to explain to my child, who was then 8, why the cartoonists had been the target and why a Jewish supermarket was attacked—grim as the details were. He proudly told his friends that his mom had allowed him to go to the giant *Charlie Hebdo* demo in République Square, where he held a red rose under a peace sign. There, he was among thousands of children.

Answering questions over dinner after these new attacks was more difficult, however. The targets this time were young



## Tips for talking to kids about terrorism

### PRESCHOOLERS

This is the only age when experts recommend trying to avoid the subject a little. Answer any questions, but don’t provide more than they are asking for.

### ELEMENTARY SCHOOL

Let your children lead the way. No need for all the details, but kids ages 6 to 11 see things in black and white and find facts reassuring.

### MIDDLE SCHOOL

Don’t assume you know how they feel or dismiss their fears. Ask what they’ve heard and what they think—and keep listening, even if they seem initially blasé.

### HIGH SCHOOL

Since teenagers are likely to be reading about and discussing the events on social media and elsewhere, explaining the knowns and unknowns in more detail is a good idea.

people having fun on a warm Friday night—people, in fact, who were his age not all that long ago.

To children in Paris, *Charlie Hebdo* had seemed like a one-off event, involving targets that were not part of our ordinary lives. It was an aberration that might, in a child’s mind, have seemed to be taken care of, in part by all the armed soldiers and riot police who now patrol the streets. The graceful safe haven of central Paris, where kids go to school on their own from an early age with little nervousness from parents, still existed.

The city still looks the same, of course. The cafés and parks are spilling over with people. But two attacks within a year suggests that such violence can happen at any time in any place and that the adults have not sorted out the problem at all.

Grappling to find the logic in this, my son asked, “Well, why did they attack those restaurants and not other restaurants?”

It was a good question, hitting at the most terrifying aspect of all—the randomness of the targets. The Nov. 13 attacks had such an impact because they struck the most normal of people—the drinkers, the concertgoers, the soccer fans.

“So why did they attack the Stade [stadium], Mama?” asked my son, whom I had recently taken to a big soccer match. “They were just playing a game.”

“Well,” I ventured, inexpertly, “they don’t like the way people live in France.”

“Because . . . because they are stupid!” he said.

Most of his school friends agreed the next morning when his class spent 20 minutes discussing why their city had, in just a few hours, been so violently upturned. Their reasoning held up well in the school yard. In the world beyond, the adults would have to sort out their differences another way. □



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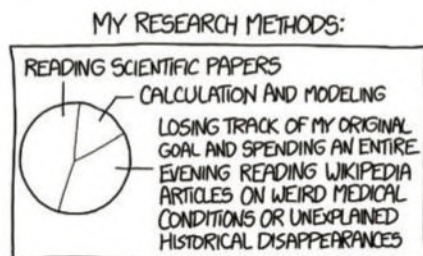
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**Randall Munroe** The author of the web comic *xkcd* and the best-selling *What If?* has a new book, called *Thing Explainer: Complicated Stuff in Simple Words*

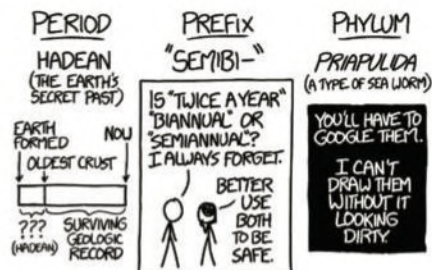
You can't be an expert on absolutely everything. How do you figure out the complicated things you explain so that you can explain them?



Some of the *xkcd* comics aren't just funny and interesting—they're very moving. They deal with deep themes like time and death. Do you think of *xkcd* as art?



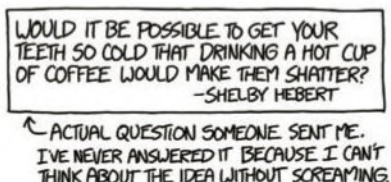
What is your favorite geological period? Numerical prefix? Animal phylum?



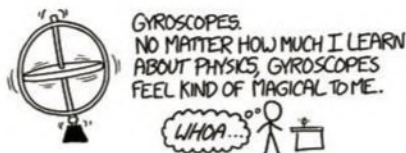
Have you always drawn stick figures? Can you draw non-stick-figure people too?



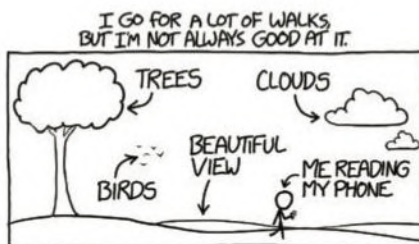
Your first book, *What If?*, explored the realistic outcomes of some exotic hypothetical situations. What was the most appalling hypothetical reality you wound up with?



Your new book, *Thing Explainer*, explains things using only the thousand most common words in the English language. Did you come across anything you couldn't explain using those words?



What do you do when you're not drawing *xkcd*?



—LEV GROSSMAN



Munroe became a cartoonist after leaving his job as a NASA roboticist



< Munroe's self-portrait



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